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THE MISSISSIPPI DOCTOR

VOL. 11. BOONEVILLE, MISSISSIPPI, JUNE, 1933 NO. 1

THE LITTLE COUNTRY HOSPITAL

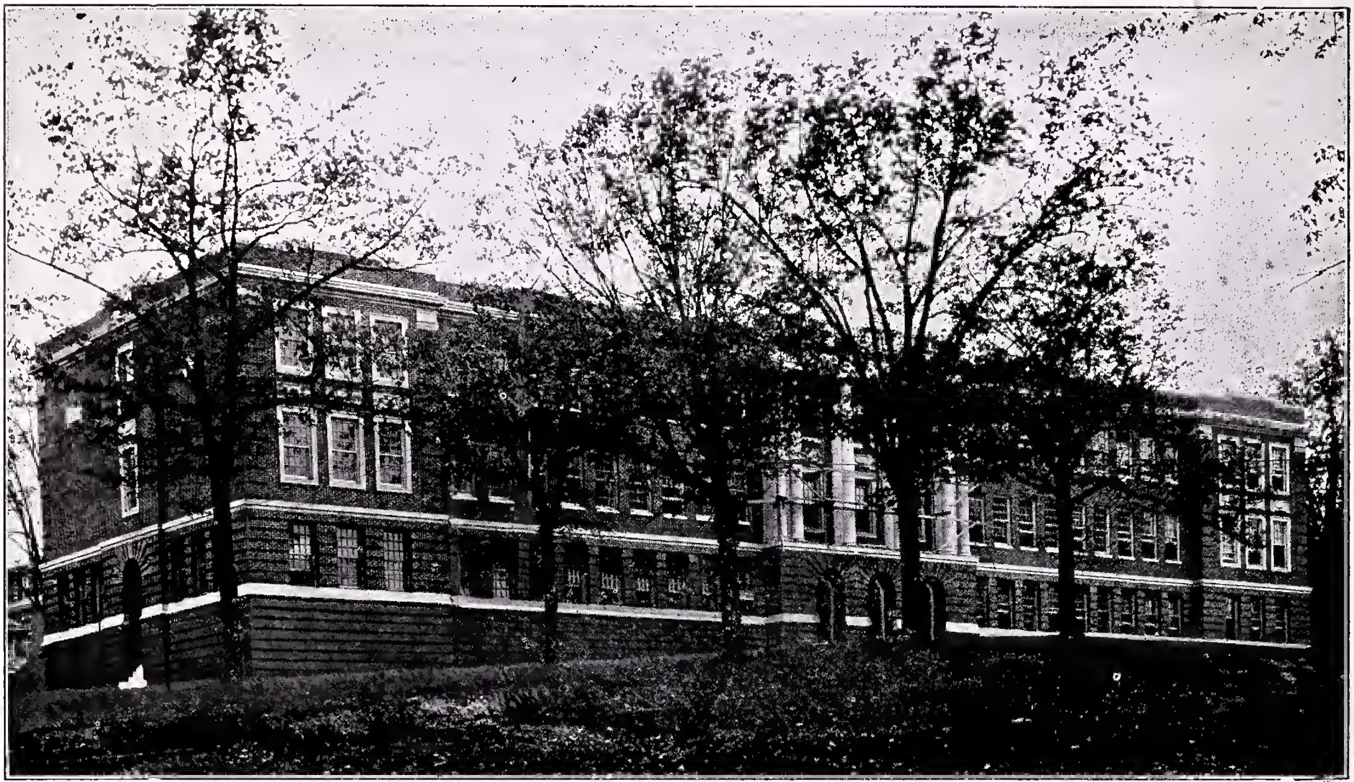
By Edgar A. Guest

The little country hospital is hidden out of view
And people seldom notice it as pleasure they pursue,
But let an accident befall—which is the fast of men—
The proudest man is glad to see the small-town doctor then,
And in that little hospital which humble folk maintain
He'll find that hearts are merciful and quick to comfort pain.

It isn't like the city place, with sections blocks apart,
Where every patient's listed as a number on a chart
And specialists for this and that convene to thumb him o'er
And ask a thousand questions of the ills he's had before,
For in the country hospital, which lacks all pomp and style,
The surgeon on his morning round has time to chat a while.

And whether pain be in your groin, your stomach or your toe,
The cause of it is the doctor there assuredly will know,
And whoso'er shall treat the hall when you are free from pain
Will stop to speak a cheery word and wish you well again.

So little country hospital, which humble folks support,
Which struggles for existence, since its funds are always short,
I pay this simple tribute now to all your tender care
In lessening the hurt and pain which mortals have to bear,
And pray for God's rich blessing on the men and women brave
Who give their every ounce of strength another's life to save.



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Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

Swimming pool and concrete tennis courts on the campus. College golf course adjoins the campus.

The college maintains one of the best and largest summer sessions in the state.

Write for catalogue and new booklet of campus views.

LAWRENCE T. LOWREY, PRESIDENT

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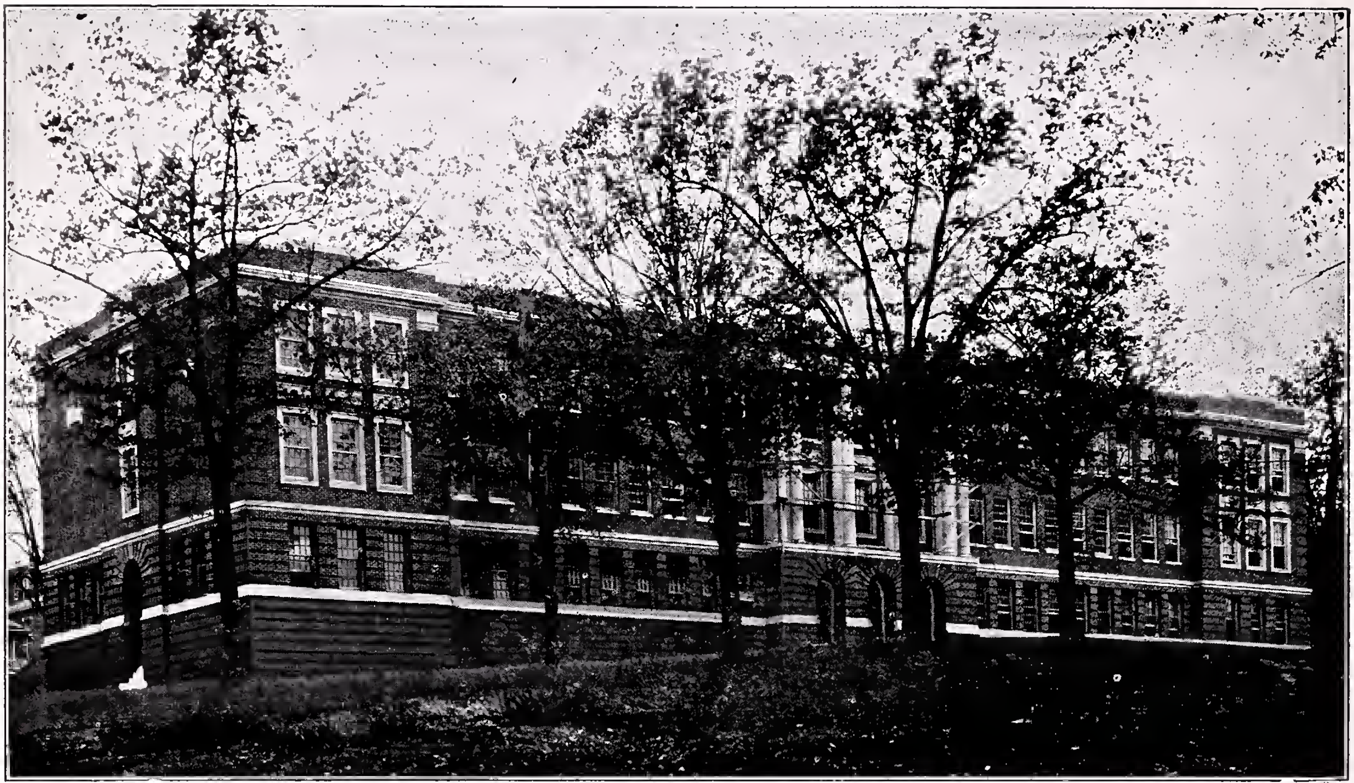

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JUNE MEETING
of
NORTH EAST MISSISSIPPI 13-COUNTY MEDICAL SOCIETY

Our next meeting is at Greenwood Springs, twelve miles from Amory, Tuesday, June 20, 1933, at 10:30. It is put on by the Doctors of Monroe County. You know what this means. The scientific program will be fine. Some able papers are in store for us. We will have a good feed at a delightful place. We will get through before night. You just naturally can't afford to miss this meeting. It will be good to be there. A man's first loyalty should be to his local medical society. No man can grow big in the profession and ignore it. You will surely cheat yourself if you miss this meeting. We know whereof we speak. We have the low down. Let us all go. Meet us there.

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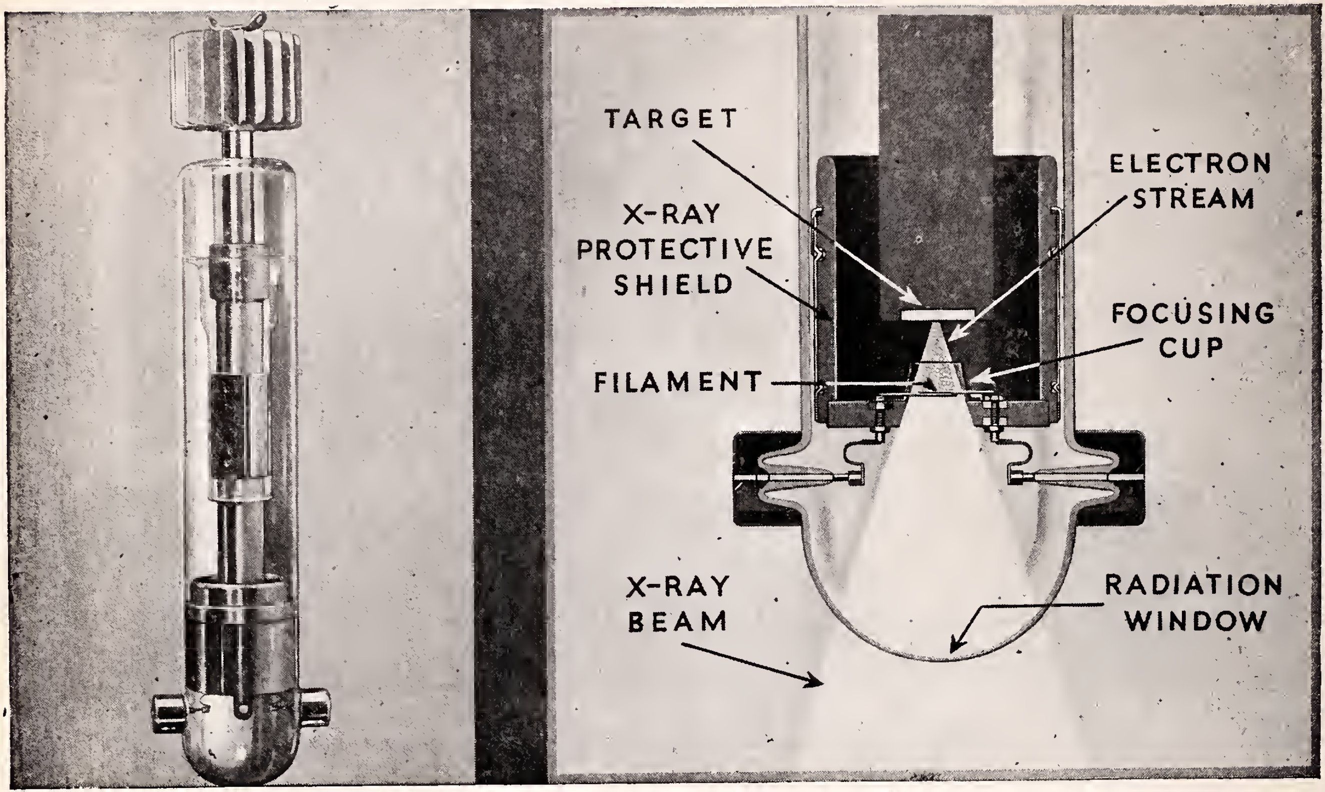

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—AND—
NORTH MISSISSIPPI MEDICAL SOCIETY
—AND—
MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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The community hospital is one hope of the nation, medically speaking. It is the laboratory in which modern medicine may be dispensed to the rank and file at less cost to the individual and at the same time more profit to the general practitioner. It is indispensible. The machine age is demanding the establishment and support of the small hospital out on the commercial firing lines. The casulty list from machinery out at the breast works of civil life is greater than in the World War. This fact alone is enough to convince the "dumbest" that the small hospital is a necessity. The medical profession can not render the service that is due the masses without it. It enables it to be done at less cost. It is a post-graduate school for the medical profession. It gives each county, or two or three counties, a medical center. It enables us to serve the worthy charity and to be better able to weed out those who are not deserving. The aid for the community hospital should be national, state, municipal, church and philanthropic. Every family in a county should donate something to this institution if it is only one dozen eggs each year. If this plan is followed a private room can be furnished for from two to three dollars a day, a ward room for less perhaps, this is for the hospital that does not try to make any profit. Any man has a right to run a hospital for profit if he wants to, has a right to try it. If a man wants to say to a hospital, "I will put up ten dollars with you for ten days in your hospital if I am sick within the next twelve months and have whatever doctor I want and if I am not sick you get the ten dollars." We can not see any harm in it. The community hospital should be a real work shop for preventive medicine as well as curative. It should be the real medical center. It should be clear of all sorts of politics and kin folks trusts if possible. Any member of the profession in the county should have just as much right as another. It is the business of the medical association to pass on the efficiency of a man and not the man who has most pull or more kin in a town than any other. Let efficiency have its way. Let a man cross the state if he likes and go to whom he wishes. In our state there is a clash between the community hospital and the five or six state hospitals we have. Our state hospitals have served well in their day. They have able men at their heads now. But they are out of date. There can be no real reason for our system at this time. It is the essence of ignorance to say that you will furnish free medical service for a charity patient who is two hundred miles away. If he had the money to get there he would not need to go. Men are being crippled and killed and mangled and maimed at every cross road in the country now. We have to take care of them. The small hospital is the only answer. The only excuse that the state charity hospitals can give for living now is that they claim they can treat patients a few cents cheaper than the small hospital. Everything considered this is not true. The telephone companies can make more money in a thickly populated territory, but we insist that they carry service further out, as we do upon the railroads. We have the people out in the interior to take care of. It is a service to human society. It will pay big returns. One central hospital in the state at Jackson would be good as soon as we are able to afford it. But reason and justice and professional responsibility is demanding that we go forward by means of the community hospital.

The West Tenn. Medical and Surgical Association at Shiloh was a splendid success. Many most able papers were read. The fraternal spirit was the very best. Next to a Mississipppian a Tennesseean is about the cleverest fellow in the world. It is a fine thing for the doctors of the two states to meet on this friendly ground of professional combat. We are delighted to have most of these papers for publication in the Miss. Doctor. The banquet at the Pine Rest Hotel was a delightful occasion. The president's address, Dr. Baird, was able and well said. It took lots of work to prepare it. Every physician should have a copy of it for reference. Dr. Haggard presented a fine paper at the night session. It is just as natural for him to talk in terms of oratory as it is for a horse to drink water. Dr. Henry G. Hill gave a paper on fractures that was practical and very fine. The hotel people were most cordial and the fried chicken was very tasty. The last of the program was really the best. Judge Kelley addressed the association the last thing the second day, at the close of the scientific program. She is the master orator of the south as far as we have heard. She operates a big Juvenile Clinic at Memphis. Her work is rapidly gaining her renown around the world. It should. She has a flow of language as constant as the Tennessee river. Her words are as choice as the picked flowers of the best florist. The extreme eloquence of her address came from the fountain source of truth that she spoke. Every practicing physician in the Mid-South should attend her Clinic, every loyal citizen should asscribe to the gospel she is preaching.

The late Dr. I. A. McSwain of Paris, Tenn., was Secretary of West Tennessee Medical and Surgical Association for forty years. He organized the association. He was a pioneer. He had a vision. He made this vision come true. He possessed the medical heart, mind and soul, otherwise he could not have done so much and have done it so well. His son, Dr. George R. McSwain was elected to take his place. This was fitting. We predict that Dr. George will go right ahead with the work in fine style. He is worthy and well qualified in every respect it seems to us.

Dr. H. C. Ricks, Director of county health work and epidemiology, Mississippi State Board of Health, has been given a travel grant by the Commonwealth Fund and will leave on May 15 for observation of the public health programs in the following places: Lansing and Detroit, Michigan ;Albany and New York City, New York; Boston, Massachusetts; Washington, D. C.; and Montgomery and Tuscaloosa, Alabama.

Drs. W. C. Spencer and W. V. Saul, members of our society were voted honorary members of the Mississippi State Medical Association at its last meeting. This is quite a distinction. It was an honor worthily and well deserved. They have the professional spirit. They love the work. They have been faithful. They have been and are still true to the trust committed to them. We congratulate them. We commend the state association.

We are delighted to have an ad from the Pine Rest Hotel at Shiloh Park. If you want to go to a place to rest, or a place to work or a place to study history, it is the place of all places. You can hear the song of the pines, breathe moist air from the river banks activated with plenty of ozone, and the management makes you feel at home and they feed you well.

Drs. Jack Gardner and Jim Acker as presidents of the Mississippi State Hospital and the Mississippi State Medical Associations delivered able addresses dealing mainly with the community hospital. They got the message over with a punch. They made it stick. We appreciate their efforts and we congratulate them. Read and study their addresses.

Dr. Bert W. Caldwell, executive secretary, was the chief speaker at the banquet at the state hospital association. He made a fine speech. It sounded reasonable. We were glad to have him. He looks and talks like a man of common sense. We trust that he will give thought and effort to our community hospital program.

The medical profession lost a valuable man in the person of Dr. Flack of Memphis. He will be missed in his specialty. The Mid-South is short a most loyal and enthusiastic member. The Mississippi Doctor lost in him one of its most helpful friends. Personally we feel his loss. The Mississippi Doctor offers its sympathy to the bereaved.

Our Secretary of Labor seems to think that we are still running wild without shoes and but few clothes. But we might say for her edification that the North East Mississippi Medical Society has more small hospitals within its bounds than any rural section in the world to the best of our knowledge.

The doctor who is always accusing his fellow of pushing himself and playing politics is the Morgan of the organization.

The Mississippi State Medical Association will meet in Natchez next year. Many will go to see this historical city.

It is not enough to be a surgical and a pill technician, the doctor should know the human organism in all of his relations to human society.

We want some more letters from out on the firing line. Let us hear from Arkansas and some one page Dr. E. M. Holder.

Dr. W. D. Haggard, of Nashville, Tenn., was on the program at Shiloh. He is the master orator of the American Medical Association.

You will note the newly elected officers of the State Medical Association, the State Hospital Association and the Woman's Auxiliary.

The Pine Rest Hotel at Shiloh is a fine place to rest.

The West Tennessee Medical and Surgicall Association will hold its session next year at Jackson, Tenn.

Dr. W. O. Baird, of the West Tennessee Society, presided with efficiency, grace, dignity and ease.

We are grateful to the State Medical Association for its telegram of sympathy, for many personal letters and for expressions in words and in deeds.

The Ole Miss Medical school now has a chance to go forward. See your representative and urge him to stand by it.

The West Tennessee at Shiloh was a fine meeting. "The Mississippi Doctor" will publish a large part of the best papers.

We appreciate the professional cards from the men of Memphis. It is a nice courtesy to us and to the profession in this territory.

You will like our new department, The Woman's Auxiliary, edited by Mrs. Dan Williams, of Gulfport. The medical profession and the Auxiliary are one. We will leave it to you to say which one.

Dr. J. P. Wall, of Jackson, did himself proud as orator of the Mississippi State.

MOTHER

Mother has gone. She cannot know how much we miss her. We did not know. We miss the warmth of her caresses. We feel the loss of her storehouse of information, especially in the history of North East Mississippi. We are uncertain without her intuitive wisdom. We feel weak without the presence of her personatlity that someway, somehow compelled us to keep on keeping on regardless of the weight of the load and inspired hope that the effort would not be in vain. We feel afraid without her constant and ever active interest and her prayers powerful enough to stop an army, and a faith strong enough to move mountains of human difficuties. We are sorry we did not realize more fully, our riches and speak more words of gratitude and appreciation. Though poorly schooled in the popular sense, her mental acumen and physical strength could not but force the greatest admiration. The buzzing of the spinning wheel in our childhood ears leaves its heavy stamp of industry. In the art of plain cooking her hands knew nosuperiors. In motherhood eight sons and four daughters declare her superiority. But words are no use. Of all the noble traits, we are most thankful for the nearly four scores of a life invested in unselfish service to others. Faith, poise, and service, these three, but the greatest of these, if one could be greater, was unselfish service to others that did not ask for reward.

Dr. Jim Hill of Corinth, a popular general practitioner, courteous and courtly in manner, a fine type of citizen. A popular, able and useful member of our state legislature.

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Pathologic Basis of the Clinical Manifestations of Renal Diseases

BY J. P. SIMONDS, M.D.
(From the Department of Pathology, Northwestern University Medical School)

The kidneys are essentially a pair of filtration plants through which the body is rid of the waste products of protein and mineral metabolishm. They contain approximately two million unit filters—the glomeruli—through which there passes each day, according to Richards, a total of about one hundred liters of a watery solution of urea, sodium chloride, and other crystalline substances in the same concentration as that in which they are present in the blood. In the tubules these one hundred liters of dilute solution are concentrated by the absorption of water to a volume of a little more than one liter, the average amount of urine passed in one day.

For efficient filtration a sufficient volume of blood must pass through the glomeruli under an adequate filtration pressure. Filtration pressure is the difference between the blood pressure in the glomerular capillaries and the osmotic pressure of the proteins of the blood. If filtration pressure is too low water will be held in the blood by osmotic pressure, and urine will not be secreted.

The glomeruli are composed of tufts of capillaries whose walls are composed of endothelium which is covered on the outside by a single layer of flat epithelial cells. These two layers of cells are separated by a very thin basement membrane. The blood enters the glomerulus through the afferent artery. It leaves through the efferent artery which immediately breaks up into a plexus of capillaries that surround the tubule which comes off from that glomerulus. There is thus a very intimate relation between each glomerulus and the long complex tuble to which it give rise. Anything that interferes with the blood supply of a glomerulus will also interfere with the nutrition and therefore with the function of the corresponding tubule.

The peculiar anatomical structure of the glomeruli, namely, a group of capillaries lined with endothelium, is found in only two other locations in the body,-the alveolar walls of the lungs and the choroid plexus of the brain. In each of these locations a selective filtration takes place. In none of these structures does serum albumin pass out of the capillaries with the product of filtration, although the endothelium of capillaries elswhere in the body is permeable to protein, for the lymph from all organs of the body contains protein as a constant constituent. Under normal conditions the urine contains no protein. There is reason to believe, therefore, that it is the epithelial layer that is the chief selector of the product of filtration, and that serum albumin escapes with the urine only when the epithelial layer of the glomeruli is injured.

Various classifications of the nonsuppurative forms of nephritis have been made,-some very complicated. The pathologists have classified nephritis on the basis of varying combinations of unit pathologic changes which occur in the kidneys; such as, thrombosis and embolism of the glomerular capillaries, intracapillary accumulations of polymorphonuclear leucocytes and proliferation of lining endothelium, proliferation of the extra-capillary epithelium, etc; changes that occur in the tubules, such as hydropic and fatty degeneration, cloudy swelling, necrosis, etc.; and, finally, changes which occur in the blood vessels of the kidney. Clinicians have made their own classifications with or without much refernce to the underlying pathology. The thesis which I wish to present is not so much a new classification of nephritis, as it is an attempt to correlate pathologic changes with clinical symptoms, and to explain the latter on the basis of the former. Such a thesis will form a means by which any reasonable classification of nephritis may be understood and interpreted.

For practical purposes, nephritis may be divided into two varieties:- those cases in which the primary damage is to the secretory portion of the kidneys, the glomeruli and tubules; and those cases in which the primary lesion is in the smaller blood vessel. In the first group belong those cases which have been described as parenchymatous nephritis, acute and chronic; glomerulo-nephritis, tubular nephritis, nephrosis, large white or large red kidney, secondarily contracted kidney and, clinically, as nephritis and edema. The second group contains those cases which are described clinically as nephritis with hypertension and nephritis without edema; and pathologically, as chronic interstitial nephritis, arteriolosclerotic contracted kidney, primarily contracted kidney, and small granular kidney.

The secretory type of nephritis is due to the action upon the kidneys of some injurious agent the chemical nature of which is not now known. It may act with varying degrees of violence and either intermittently, remittently or continuously. The most significant physiologic effect is to increase the permeability of the urinary filter. As a result, not only do the normal waste products and the dyes used in functional tests pass through the kidneys readily, but serum albumin is also lost in the urine. In spite of the increased permeability of the renal filter sodium chloride is retained, not in the blood, but in the tissues of the body. There is no satisfactory explanation of this retention. But the hydremia induced by the loss of serum albumin from the blood and the retention of salt in the tissues are the most important factors in the production of one of the most important clinical manifestations of this type of disease, namely, edema. Barker and Kirk found that when the albumin content reached a certain low level, edema occurred. This loss of albumin from the blood reduces its osmotic pressure. Fahr, Kerkhof and Conklin have reported that the normal values for the osmotic pressure of the plasma proteins were from 20 to 23 mm. of mercury and that the osmotic pressure of the plasma proteins was 11 mm. of mercury or lower in all of their cases of nephropathic edema. Thus the unit pathologic processes which the pathologist finds in the glomeruli, in whatever combination they may occur, account for the increased permeability of the urinary filter, which, in turn, explains the loss of albumin from the blood and the consequent hydremia, which is one of the chief factors in the induction of nephropathic edema. Damage to the glomeruli is responsible for the presence of albumin and red blood cells in the urine. In the tubules the albumin is mixed with detritus from damaged cells and coagulation of this mixture gives rise to casts.

The clinical manifestations and the underlying pathology of the vascular type of nephritis are quite different from those just described. The essential pathology consists of a characteristic change in the smaller arteries not only in the kidneys but in other organs of the body. This type of so-called nephritis is not a primary disease of the kidneys but a primary disease of the smaller arteries. It is considered a nephritis because the vascular changes in the kidneys so affect the function of these organs that this feature of the disease dominates the clinical picture.

This disease of the arterioles differs from the ordinary atherosclerosis in two essential respects. In atherosclerosis a nodule appears in one sector of the intima of a fairly large artery. Fatty degeneration and lipoidal infiltration take place. This nodule occupies only a sector of the vessel, that is, one-fourth to one-half of the circumference. Such a nodule may ultimately occlude the lumen of the vessel or a thrombus may form upon it. If this change occurs in the coronary artery we have the familiar clinical syndrome of coronary thrombosis with its pathological couterpart of infraction of a part of the heart . The remainder of the heart muscle is adequately supplied with blood. When this process occurs in the kidney the blood supply of a portion of the organ is cut off and the familiar arteriosclerotic scar is the pathologic result. But enough renal tissue remains to perform adequately the function of the kidneys. Hence arteriosclerotic contracted kidney is a pathological and not a clinical entity. Renal function is not disturbed.

In arteriolosclerosis, the lesion involves the entire circumference of the vessel and the narrowing of its lumen is much more marked. Futhermore the change is diffuse and affects a large percentage of the vessels of the organ in which it occurs. The change is a diffuse hyperplastic sclerosis in which the fibrous tissue of the intima increases and becomes hyaline; or a hyperplastic elastic intimal thickening in which the elastic layer of the vessel is increased in amount and disrupted into numerous thin bands.

This hyperplastic sclerosis differs from the ordinary type if atherosclerosis, therefore, in that it is diffuse and affects simultaneously a far greater number of vessels; and it involves the entire circumference of the intima and thus causes a more marked narrowing of the lumen. For these reasons it induces a serious disturbance of the function of the organ.

In this vascular type of nephritis the secretory portion of the kidneys is not primarily diseased. As

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H. O. PATE,
Manager

long as the blood pressure is high enough to maintain an adequate filtration pressure in the glomeruli, the condition is compensated and renal function is not seriously disturbed. When the disease of the arterioles becomes sufficiently widespread throughout the kidneys and the lumens of the vessels become so narrowed that adequate filtration pressure is not maintained in the glomeruli, then renal insufficiency results, that is, the condition is decompensated.

The earliest symptom of this disease is a rise in blood pressure. This is due not only to the vascular changes in the kidneys, but to the generalized hyperplastic sclerosis affecting the arterioles throughout the body. As a result of the hypertension the heart undergoes concentric hypertrophy. When a sufficient number of glomeruli, about three-fourths or more, fail to receive a sufficient amount of blood under adequate filtration pressure, renal insufficiency becomes manifest in the form of retention of urea, uric acid and creatinin in the blood and inability of the kidneys to excrete phenolsulphonphthalein. This renal insufficiency is not due to any primary change in the renal filter, which is quite capable of excreting nitrogenous waste products and dye, but simply to the fact that the glomeruli are not supplied with sufficient blood under adequate filtration pressure. When the afferent artery to a glomerulus becomes completely occluded the glomerulus undergoes atrophy and ultimately becomes transformed into a scar.

Another characteristic finding in this disease is the excretion of an excessive amount of urine of a low specific gravity. Enough glomeruli are able to function at a reduced rate in spite of reduced blood supply, so that a diminished amount of dilute urine does filter into the tubules. But since the tubules receive their blood supply through the glomeruli their function is also interfered with and they absorb less than the normal amount of water, that is, the kidneys are unable to concentrate the urine. The net result is an increased quantity of urine with a low specific gravity.

This inability of the kidneys to concentrate the urine gives rise to a further characteristic of the disease, namely, the disapperance of the normal difference between day and night urine. Normally the urine secreted during the night is less in amount and has a higher specific gravity than that secreted during the day. This difference is due in large part to the normal, diurnal variation in blood pressure. In this disease hypertension is constantly present and this normal variation disappears. Hence the characteristic "fixation of specific gravity" at a low level. The physiological activity of the kidneys is maintained at practically maximum functional capacity all of the time.

Inasmuch as the glomeruli are not primarily damaged their permeability is not increased. The urine, therefore, contains little or no albumin or casts.

As already pointed out, edema is a characteristic symptom of the secretory form of nephritis; it is not an essential part of the clinical and pathological picture of the vascular form. In the secretory type, there is a genuine nephritic edema due largely to retention of salt in the tissues and to the hydremia which results from loss of serum albumin of the blood through the damaged glomeruli. In the vascular form of nephritis edema may occur but only in the late stages of the disease, and is the result of circulatory disturbances due to decompensation of the heart; that is, it is cardiac edema.

It is rare to find, either clinically or pathologically, a pure form of nephritis. It is well known that an organ that is the seat of a chronic inflammatory process, or of a chronic circulatory disturbance, especially one that reduces the blood supply, is more readily vulnerable to injurious agents than a normal organ. The readiness with which a chronically diseased heart valve becomes the site of an acute endocarditis, is a case in point. Kidneys that have suffered a chronic diffuse disease of their arterioles may have their secretory portion damaged by some noxious agent that reaches the blood stream. Hence a pure form of vascular type of nephritis may later become complicated with the secretory form.

In some cases of acute glumerulonephritis (secretory type) anuria may develop and retention of nitrogencus waste products occur. This is due in most cases to the swelling of the epithelium of the tubules which results in such an increase of intra-renal pressure that the circulation through the kidneys is reduced below the level adequate for proper filtration.

The secretory type of the disease is a progressive malady. There is a continuous destruction of physiological units. If the patient survives long enough a time may come when he does not have enough units left to excrete waste products adequately and retention of these waste products results. Under these circumstances there may be relatively slight but readily detectable rise in blood pressure.

The immediate cause of death is usually quite different in these two forms of nephritis. In the secretory type the patient usually dies of some intercurrent infection or from edema of the brain. In the vascular type, he may die from intercurrent infection, but usually from uremia, cerebral hemorrhage or decompensation of his hypertrophied heart.

The rationale of treatment is also different in the two types of the disease. In the secretory type reduction of water and salt intake will aid in reducing the troublesome edema; a high protein diet can do no harm because of the absence of retention, and will aid in restoring the depleted blood proteins. In the vascular type abundant water intake may aid in flushing out the retained nitrogenous waste products; but a high protein diet will only place a greater burden on the kidneys that are already incapable of excreting waste products adequately.

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Chronic Arthritis

BY DR. JOSEPH L. MILLER
122 South Michigan Avenue
Chicago, Ill.

Under the generic term "chronic arthritis" are included two distinct diseases. They differ in their clinical manifestation; in their pathology; and are of quite different etiology.

The nomenclature adopted by the International League on Chronic Rheumatism, if it becomes generally adopted, will be of great assistance in clarifying the literature on this subject. At present it is frequently impossible to determine which one of these diseases is under discussion. Clinically they can be quite readily differentiated and usually without the aid of x-rays.

The two terms recommended are "rheumatoid arthritis" and "osteo-arthritis." Synonymous terms for rheumatoid arthritis are: "atrophic arthritis," "infectious arthritis," and "arthritis deformans." "Hypertrophic arthritis" is synonymous with osteo-arthritis.

The clinical manifestations of the two diseases are quite different. Rheumatoid arthritis, as the name signifies, resembles in many respects acute rheumatic fever. In fact, in those cases where the onset and symptoms are very acute (and this is most frequently observed in children) the early differentiation may be very difficult. In the large majority of cases the onset is very gradual, shading out in some instances to such a degree that it may be very difficult to determine the presence of inflammation. In addition, there are those cases where the infection has disappeared and the diagnosis is made by the presence of the characteristic deformities. Rheumatoid arthritis may begin in childhood and it is rare to find the onset after 50 years of age. On the other hand, osteo-arthritis occurs chiefly after 50 and increases in frequency with each additional decade. Osteo-arthritis is not associated with evidence of inflammation. Osteophytes are not an accompaniment of rheumatoid arthritis and are constantly present in osteo-arthritis. Ankylosis develops rapidly in rheumatoid arthritis; a true ankylosis does not occur in osteo-arthritis. Ischemia, with skin and muscle atrophy, is observed only in rheumatoid arthritis. Mixed types are frequent and will be discussed later.

The pathologic changes in the joint in rheumatoid arthritis are inflammatory in character, a round cell infiltration of the joint and periarticular structures accounting for the spindling frequently observed in the mid-phalangeal articulation. As a result of this inflammatory reaction the cartilage is destroyed and the round cells converted eventually into fibrous tissue. If an involved joint is immobilized, fibrous ankylosis develops rather rapidly.

The changes in the joint in osteo-arthritis are entirely different. There is no evidence of inflammation; the changes in the cartilage are degenerative in nature. As the nutrition of the cartilage is poor, such changes can readily develop after even a slight injury to the cartilage. Following this there is a proliferation of the peripheral cartilage and later osteophytes develop in this area.

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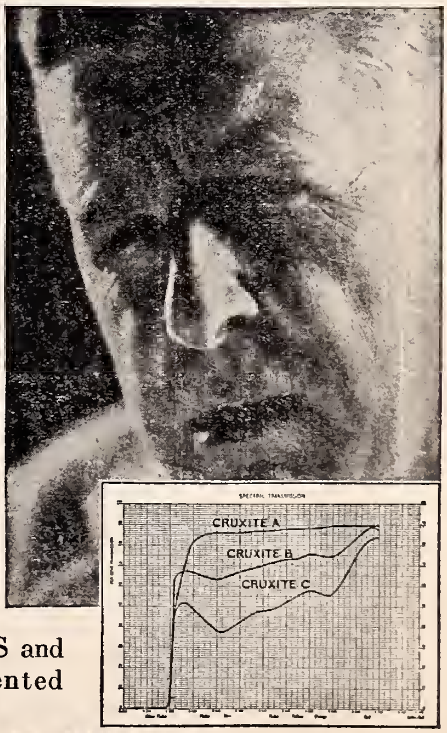

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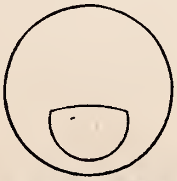

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It is apparent from the pathological findings that rheumatoid arthritis is of infectious origin and osteo-arthritis is degenerative, comparable, in this respect, to the so-called senile type of arterio-sclerosis.

Blood cultures from patients with rheumatoid arthritis frequently show the presence of streptococci. Cultures can also be obtained from the enlarged lymphatic glands often present in the neighborhood of the involved part. It can be said with a high degree of probability that this type of arthritis is due to streptococcus infection not, however, due to a specific strain. The presence of a positive sedimentation test also supports the infective view.

What is the cause of the degenerative changes in osteo-arthritis? Blood and joint cultures are negative. The sedimentation test also is normal. A. G. Trimbrell Fisher has given us a very satisfactory definition of this disease. He says, "It is not a disease sui generis, but a physiologic response to some of irritation either mechanical or chemical." He believes that injury to the central cartilage is sufficient to set up a sequence of events which we recognize as osteo-arthritis. There is abundant evidence that mechanical trauma, either mild and long-continued or severe and acute, is an important etiological factor. The base-ball finger is a good example of osteo-arthritis from acute injury. Heberden's nodes and spinal osteo-arthritis are the result of long-continued mild injury.

Why is the spine so frequently involved in osteo-arthritis? One explanation offered is that the spine has never adjusted itself to the upright posture. Certainly the intervertebral discs are subject to much more compression than they are in quadrupeds. In any case, the discs with age lose much of their resiliency and thus permit of greater jarring. They also become thinner and thus allow of greater play in the articulations. This, in turn, leads to greater ligamentous traction. As the osteophytes develop chiefly at the point where the ligaments are attached to the bone, it is believed that traction, rather than pressure, is responsible.

Interpretation of mixed forms of chronic arthritis has added greatly to the difficulties of making a diagnosis. Both types are observed not infrequently in the same individual. In some cases the patient had osteo-arthritis before he acquired rheumatoid arthritis. Ulnar deviation of the hand, a common deformity in rheumatoid arthritis, may be responsible through traction or pressure for an osteo-arthritis. Rheumatoid arthritis of the foot by modifying posture may be responsible for an osteo-arthritis of the knee. By careful consideration of the history and a study of the postural changes consequent to rheumatoid arthritis, one can usually explain the presence of both diseases in the same individual. It is believed that rheumatoid arthritis per se is not responsible for new bone growth. Osteo-arthritis is due chiefly to mechanical irritation which is usually either pressure or traction.

The course of rheumatoid arthritis is extremely variable. The more acute the onset, the greater the probability of a high degree of disability. In those cases where the onset is very gradual, a high degree of disability may never develop. It is a disease that very frequently has remissions which may reach a point where all evidences of infection may have disappeared. Occasionally the remissions are permanent; more frequently, however, the joints again become infected. This peculiar course of the disease must be considered before drawing conclusions in regard to any special method of treatment. This is especially true when the treatment is continued for months or even years.

The prognosis in osteo-arthritis is much more favorable. The Heberden's node is usually a cosmetic disturbance rather than a painful malady. Only a very small percentage of patients with osteo-arthritis of the spine suffer any inconvenience. When troublesome, it is usually in the form of root pains as lumbago, sciatica, intercostal neuralgia, or pain over the distribution of the brachial plexus. When it is present in a weight-bearing point as the knee, and this is usually due to over-weight, it may cause a considerable degree of disability.

The treatment of rheumatoid arthritis is chiefly directed toward destroying the infection in the joint; preventing ankylosis and deformity; and preventing re-infection.

General measures to maintain the body resistance to infection include a well-balanced diet, rest, and as far as possible freedom from worry and adequate sleep. Under special measures is the use of vitamines known to combat infection. The most important of this group is Vitamine A which is present in concentrated form in cod liver oil. Vitamine B, less important, can be supplied inexpensively by yeast which furthermore improves bowel tone and acts as a laxative. Vitamine C probably only acts to prevent infection in the mouth and can be obtained from citrus fruits or at less expense from cabbage.

Other means for combating infection are chemotherapeutic drugs—serums and vaccines. At present we do not have any chemical agents that act on streptococcus infection. Serums have been tried but without effects. At present much work is being done with vaccines which we are frank to admit is still in the experimental stage. The use of vaccines includes subcutaneous and intravenous injections. The former is being given in increasing doses or, by those who believe in the allergic origin of disease, in very small doses even as low as 100 bacteria. In most of this work with vaccines, the reports are on results immediately following its use and without adequate controls. The only adequate control and follow-up series is that by Boots and Dawson of the Presbyterian Hospital in New York City. Their conclusion at present is that they have not been able to show that vaccines subcutaneously are of any value. A careful follow-up of a moderate number of cases would give us information in regard to the results of treatment, of which we are sorely in need. Not only is it necessary to use as controls a series of untreated cases, but it is equally important that a series be treated by subcutaneous or intravenous injections of a harmless preparation, like normal salt solution. In this disease we must, in a large measure, rely upon the patients' statements as to benefit and it must always be borne in mind that hypodermic medication may have a striking psychic effect on the patient.

Intravenous use of vaccine falls into two groups—one where no temperature reaction follows the injection; the other the use of vaccines which give rise to a chill or at least a decided rise in temperature. It is well known that improvement is often observed following a chill. The improvement is not due to the specific effect of the vaccine, as any agent that will produce a reaction when given intravenously may be beneficial. The value of specific vaccines given intravenously, in sufficiently limited amounts to avoid a reaction, is still to be determined. Many capable physicians are now employing this form of therapy, If their results are properly controlled, we should soon possess some valuable information.

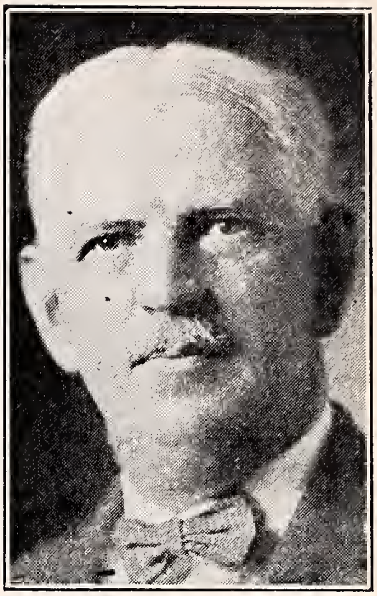
The writer, for twenty years, has used typhoid vaccine intravenously in dosage sufficient to give a definite reaction. Rarely does a patient receive more than five treatments. The immediate results are very satisfactory if early cases and only those with active evidence of inflammation are selected. However, after the lapse of a few weeks or months many of these develop a recurrence, probably due to re-infection.

In addition to the various methods of attacks directed toward destroying the infection, it is important that every means available be employed to avoid contractures and ankylosis. The assistance of an orthopedist at this time, rather than later, is very desirable. Details of the methods employed will not be discussed at length as these are outside the internist's field. Weight-bearing or prolonged fixation should be avoided. Heat, salicylates, or even codein may be used to allay the tenderness and permit of gentle passive movement, sufficient to prevent fibrous ankylosis. Let me emphasize again that the assistance of an orthopedist at this time is invaluable. Furthermore, efforts of this nature, if instituted early, may prevent a high degree of disability.

It is questionable, when a patient has streptococci in the blood stream, joint fluid and lymphatic glands, whether removal of the source of infection (if this could be definitely determined) would have any effect on the recovery of the patient.

It is important, however, during a remission to prevent re-infection. Perhaps too much attention is being directed toward chronic foci of infection, where the germ may have lost much of its virulence and the host acquired some immunity. Carefully controlled studies have been made, especially in England, on the value of removal of tonsils to prevent the recurrent acute arthritis of children. This procedure did not have any effect on recurrences—the children every spring had sore throats, nasopharyngitis, or sinusitis, followed by recurrence of the rheumatism. Perhaps the same holds true in rheumatoid arthritis.

The treatment of osteo-arthritis, if we accept the view that the disease is degenerative in character, is very limited. Practical preventative measures scarcely need be considered. Probably the most important and gratifying advice is to assure the patient that the disease is not highly disabling; that it is not due to an infection; and that the removal of infected foci or the use of vaccine, is of no value. By this advice, we can protect the patient's pocketbook. He may be told that jarring, lifting, or violent exercise, may be responsible for lighting up the root pains. Obese patients with osteo-arthritis of the knees may obtain considerable relief by reducing their weight. They should avoid unnecessary standing or excessive walking, especially on cement sidewalks.



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Tumors That Originate From Endocrine Dysfunction*

BY W. WAYNE BABCOCK, M.D.
From the Surgical Department, Temple University
Philadelphia, Pa.

ABSTRACT. Each part of the body is transmitted from parent to off-spring by genes. The growth and size of each part is dependent upon stimulation by hormones derived from ductless glands. If the endocrine influence is absent or withdrawn, dwarfing or hypoplasia results; if the stimulating hormone is in excess, giantism or overgrowth may follow.

Examples of deficient growth are seen in infantilism, type Lorain, from pituitary dysfunction, and in cretins from the absence of thyroxin. Ablation of the anterior pituitary arrests the growth of the uterus and ovaries in the immature and causes atrophy of these organs in the mature animal. Growth is therefore a response to specific hormones. If there is no hormone there is no growth. From the pregnancy hormone the breasts of boy babies may lactate, their external genitals swell. Even descent of the testes may be precipitated, as recently shown by Engle, by the injection of the pregnancy hormone.

Normally the body is cast in a chemical mold, each cell and part being held to rigid limits as to size and shape by specific chemical compounds circulating in the blood. Thus an epithelial cell, the nose, an arm, the liver, maintain a definite individual size from birth to death.

Physiologic new growths of limited duration depend upon new or modified ductless glands of transient existence. That pregnancy may progress, for example, there is a special gland, the corpus luteum. Remove the corpus luteum and the hyperplasia of pregnancy ceases.

If one attempts to add to the size of the body or of its individual parts by transplanting a mass of epithelial cells, a bone, a finger, a gland from another person, cytolysins remove the alien elements. Even a skin graft from parent to child is not tolerated. For successful grafting the tissue must come from the individuals own body—an iso-graft.

Abnormal new growths may be called into being by the dysfunction of ductless glands. These pathological overgrowths may involve the entire body, a system, a member, an organ, a tissue, a cell or group of cells. An example of overgrowth of the entire body is seen in the giantism resulting from the over-activity of the eosinophilic cells of the anterior pituitary (eosinophilic adenoma). Overgrowth of a system from glandular dysfunction is illustrated by the virilism due to tumors of the suprarenal cortex. Overgrowth of a member is seen in certain forms of pituitary disease. Overgrowth of an organ is illustrated by gynecomastia apparently from the persistance of female sex hormones in the male. Overgrowth of a tissue is illustrated by the overgrowth of bone, the bony exostoses, and the Froelich type, fatty deposit seen in various forms of pituitary dysfunction. The trochanteric type of adiposity from the menopause of castration and the overgrowth of ocular muscles in exophthalmic goitre are not as clear additional examples.

New growths which have long been considered as benign or malignant tumors result from endocrine dysfunction. Fibromyomata affect parts of the uterus the become hyperplastic during pregnancy and depend for their growth upon an ovarian hormone. Endometrial tumors (endometromas) grow in the uterus, pelvis, appendix, intestine, bleed with menstruation and show invasive or malignant tendencies but disappear when the ovarian function is abolished. According to Aschheim the tydatidiform mole occurs in association with multiple corpus luteum cysts which in turn probably depend upon a hormone from the anterior pituitary.

Tumor-like overgrowths develop from faulty lipoid metabolism the underlying endocrine dysfunction not having been determined. Thus, hyperplasia of cells distended by lipoids occurs in Gaucher's disease, Neimann-Pick disease, Schuller-Christian disease, in xanthomata and in the foam cell tumors of the jaws and tongue. With the Krukenberg tumor the peculiar malignant growth of signet-ring cells limited to the gastro-intestinal tract, both ovaries, and occasionally the mammary glands, is contrary to our concepts of metastasis and suggests an underlying endocrine dysfunction. There is clearer evidence, however, that certain giant-cell tumors and cysts of bone are due to hyperparathyroidism. These tumors include growths that formerly were termed myelomas or giant-celled sarcomas. After removal of the parathyroid tumor or one or more of the parathyroids, the tumors may disappear.

There are features about the carcinoids (argentaffine tumors), about multiple enchondromas, multiple exostoses, multiple fibroneuromas and other tumors that suggest a possible endocrine basis.

We can no longer believe that tumors are always autogenous new growths and it is logical to consider that pathological new growths may develop and progress as a result of endocrine dysfunction.

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*Read at the Third Annual Fall Clinical Conference, Oklahoma City Clinical Society, Nov. 3, 1932.

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The Doctor's Practical Relation to the Cancer Problem

BY WILLIAM CARPENTER MacCARTY, M.D.

(From the May 1933 Bulletin of the American Society of the Control of Cancer, New York, N. Y.)

The cancer problem has many phases, such as histogenesis, etiology, immunity, and heredity, which are being studied in institutions for pure research. But aside from these subjects, still open to investigation, there are three immediate and practical phases about which much is already known: the frequency of the disease, the necessity of and means of early diagnosis, and the good results of present methods of treatment. With the general acceptance of this knowledge cancer can easily be materially reduced in seriousness. In so far as medical students and practitioners are concerned, the immediate and tangible problem rests in effectual utilization of this knowledge for practical purposes.

Statistics reveal that there are approximately 150,000 deaths from cancer yearly in the United States. The more important problem is to reduce this number and to care for those victims who are still alive. By calculation I have decided that there are at least 2,000,000, and possibly more, cancer patients in our midst who are waiting to be recognized. Statistics reveal that 75 per cent of the cancers of the stomach are inoperable when the patients are first seen in consultation by the surgeon (Balfour). This leaves only 25 per cent to whom some possibility of help can be offered. Even this 25 per cent does not represent the early stages of cancer; by actual measurement it is found that the resected gastric cancers average 6cm. in diameter, 50 per cent of these being palpable through the abdominal wall (MacCarty). With increasing knowledge, and more general use of the roentgen rays, we are, however, seeing an increasing number of smaller lesions but no more than are required to show that there is much room for improvement. What has been said of gastric cancer is also true of cancers in other regions. Thus, 30 to 50 per cent of the cancerous breasts and 25 per cent of the large intestinal cancers are inoperable, according to Harrington and Rankin. The average size of the operable lesions is 3 cm. for the breast and 6.5 cm. for the large intestine (MacCarty). There must be reasons why these cancers are so large. Certainly all of them have not been symptomless and many of the patients have been seen by physicians, or by vendors of various medicines for temporary relief of symptoms. Possibly there are six reasons:

1. The patient with cancer does not always know that he or she is even sick. This certainly happens, but rarely.

2. The patient suspecting cancer fears an examination. This happens, but probably less frequently than ten years ago.

3. The patient does not submit to complete examination. This happens frequently because not 25 per cent of the patients with cancer of the stomach, encountered in Kirklin's experience, have been previously subjected to roentgenologic examination.

4. The patient goes to a physician and it is actually impossible for him to recognize the condition. This occurs.

5. The patient refuses to take the physician's advice. This occurs, but not as frequently as in past years.

6. Early cancer does not give the text-book signs and symptoms of cancer but rather those of chronic inflammation, obstruction of some kind, anemia, hemmorrhage, or weakness.

In my opinion the medical profession is suffering from a confusion of knowledge largely the result of a confusion of nomenclature, premature theoretical explanations, some stubborness, and impractical conservatism.. There are more than 950 terms used to name neoplastic conditions. As a matter of fact there are only three great groups of neoplasms in so far as their cytology and clinical behavior are concerned (MacCarty):

1. Those composed of adult cells with normal tissue arrangement: the cytomas.

2. Those composed of cells normally or near normally arranged, but having the morphology of malignant regenerative cells: the blastomas.

3. Those composed of the maglignant regenerative type, not arranged in any fashion approaching that of any normal tissue: the problastomas.

It may be said that the first two groups have their subdivisions but these are only of academic interest and have the same diagnostic and prognostic significance as their respective main groups.

Clinical experience has taught us that the neoplasms of the first group are relatively benign, in that they are not invasive. grow by expansion, and do not metastasize. They sometimes kill by impinging on or interfering with vital structures. The second and third groups are clinically malignant, in that they invade surrounding tissues and form regional and distant metastatic growths. The general popular term "cancer" embraces the second and third groups but not the first.

For each group there are many synonyms. Such a superfluity of names the result of that great period of observation and collection of material which has always necessarily been the forerunner of scientific generalizations.

Although each of the three main groups (the cytomas, blastomas, and problastomas) has its own general and variable prognosis, there are still other factors which alter or control the prognosis in individual cases. Each of these, and there may be more, has been studied, and there are enough facts to aid us materially in handling our problem.

FACTORS GOVERNING PROGNOSIS

Judging from my own clinical and pathological experience there are at least fifteen factors governing prognosis in cancer. I shall describe them briefly in the approximate order of their clinical importance.

1. The presence or absence of nodal involvement and distant metastasis. It may be stated that length of life is inversely proportional to the amount of nodal involvement and distant metastasis. To this principle there is the corollary that the proximity of death depends also on the vital anatomic situation of both primary growth and metastasis. In support of the first principle many figures might be given. I shall, however, confine myself to a few of the statistics from The

Mayo Clinic.

Table 1
NODAL INVOLVEMENT

Organ	Cases studied	Length of post-operative life, years	With nodal involvement, per cent	Without nodal involvement, per cent
Breast	962	3	39.25	74.6
Stomach	1000	3	19.00	52.0
Breast	962	5	24.2	63.5
Lip	136	5	18.1	90.3
Breast	218	5 to 8	18.9	63.9
Breast	962	10	13.3	44.0

2. Fixation of growth. The greater the fixation of a cancer to surrounding structures, the greater the difficulty of surgical removal, the greater the immediate operative risk, the greater the chance of local recurrence, and the less the chance of complete recovery. I have no figures to substantiate this principle, but practical experience shows that surgeons will not attempt removal of a fixed growth. Such patients are referred to radiologists.

3. Situation. Cancers situated in organs that are easily accessible at physical examination, especially when the patient if forced to an examination by the presence of a tumor, hemorrhage, pain, or obstruction, usually receive early treatment and this is concealed universally by all to give the best prognosis. It may be stated, therefore, that malignant or benign tumors so situated as to produce early pain, hemorrhage, mechanical obstruction, or an easily recognizable mass, are more favorable. The relation of an organic situation to size and favorability of early recognition may be seen in Table 2 which represents a study of 3,778 cancers of the large bowel, breast, and stomach(MacCarty).

Table 2
RELATION OF SITUATION TO SIZE

Situation	Average size, cm.	Largest, cm.	Smallest cm.
Hepatic flexure	8.94	14	4.0
Cecum	7.8	15	3.0
Ascending colon	7.26	14	4.0
Transverse colon	7.22	14	2.0
Stomach	6.16	19	0.5
Descending colon	6.07	13	2.0
Rectosigmoid and sigmoid	5.94	15	1.0
Splenic flexure	5.9	8	2.0
Rectum	5.8	18	1.5
Breast	3.2	13	0.2

In general it may be stated that the greater the diagnosis and therapeutic accessibility of a growth and the earlier it produces incapacitating signs and symptoms, the better the prognosis.

4 and 5. Renal and cardiac efficiency. The part which the heart and kidneys play in cancer is similar to that which the play in general health. The lower the cardiac and renal efficiency, the poorer the prognosis, and especially the greater the immediate therapeutic risk.

6. Anemia. This condition is associated apparently with two different conditions: reduction of diet and single hemorrhage or constant or repeated oozing from the growth. Perhaps a third condition exists, although it is difficult to prove that it is not one of the two. By this I mean anemia due to a theoretically existent toxic condition arising from the cancer itself, or associated with its disintegration. In general, it may be said that, the greater the anemia, the greater the immediate therapeutic risk and the shorter the life. If, however, the anemia is the result of a single or of recent repeated hemorrhages from the growth, this may not necessarily alter the ultimate prognosis after the growth is removed.

7. Size of growth. In my experience, a long enough period has not elapsed since accurate measurements have been made to allow definite conclusions. Information, therefore, must be indirect. It has been established that there is a definite relationship between size of growth and the presence of nodal involvement which in turn has prognostic value. In Table 3 the relationship of size of growth to the presence of nodal involvement may be seen.

Table 3
RELATION OF SIZE OF GROWTH TO NODAL INVOLVEMENT

Organ	Cases	With nodal involvement, cm.	Without nodal involvement, cm.
Hepatic flexure	16	8.55	9.34
Cecum	118	7.8	7.8
Transverse colon	61	6.85	7.6
Stomach	1002	6.74	5.58
Splenic flexure	10	6.4	5.4
Rectosigmoid and sigmoid	469	6.04	5.84
Rectum	601	5.98	5.63
Descending colon	30	5.88	6.27
Ascending colon	28	5.6	8.92
Breast	1443	3.92	2.53
Total	3778		

In the first five organs or portions of organs, cancers are usually very large. There is no apparent relationship between size of growth and lymph nodal involvement in these, but in such organs as the rectosigmoid, splenic flexure, rectum, stomach and breast, where symptoms and signs appear early and are more easily recognized, there is a definite relationship. It is fair to state that the larger the primary growth, the greater the possibility of nodal involvement, and hence the worse the prognosis.

8. Age. It is the general clinical impression that age has some bearing on the prognosis. Thus, clinical experience reveals that cancer is usually more rapidly fatal to a young person than to an older person. It is very difficult, however, to study this problem statistically because many other factors are involved. If age alone is taken into consideration, there may be still a difference of size, situation, fixation, duration, character of growth and nodal involvement, to say nothing of general factors such as pulmonary, cardiac and renal efficiency. In a series of 218 patients with cancer of the breast who died of recurrence, Sistrunk and I reported that 41.7 per cent of those who were more than fifty years of age were alive from five to eight years after operation and that 31.8 per cent of those who were less than fifty were alive for

the same period. These figures confirm the general opinion. On the other hand, in studying the same series in decades we found many variations.

Table 4

AGE

Decade of life, years	Units	Postoperative length of life — Patients without nodal involvement: Average	Longest	Shortest	Patients with nodal involvement: Average	Longest	Shortest
30 to 40	Years	3	4	3	2	4	0
	Months	5	5	0	3	9	5
	Days	19	2	22	16	3	18
60 to 70	Years	2	3	1	2	7	0
	Months	7	9	8	3	1	8
	Days	23	20	22	10	0	5

It appears that no great generalizations should be drawn as to any constant differences in the different decades in this series. I believe that generalizations regarding age alone, when applied to clinical practice, might sometimes be very misleading. I have seen patients less than thirty years of age with cancer of the breast, rectum and ovary, all live more than twenty years after radical treatment. Despite the fairly common exceptions, it is perhaps correct to say that the younger the patient the worse the prognosis, keeping always in mind that all other factors have an influence regardless of age.

9. Direction of growth. By this expression it is meant to denote whether the bulk of the cancerous mass is toward the lumen or surface of the organ or whether it is infiltrating the wall and growing toward adjacent organs or cavities, such as the peritoneal cavity in the case of intestinal cancers or the thoracic cavity in the case of cancer of the breast. Some cancers, especially of the colon and stomach, grow massively toward the lumen, with little or no invasion of the wall. Others do not grow toward the lumen but invade the wall, the serosa, and the neighboring structures. Of the two types, the latter has the worse prognosis. It is more likely to be accompanied by nodal involvement, and may be much smaller than those which grow toward the lumen.

10. Loss of weight. There are probably several reasons for loss of weight in association with cancer: quality and quantity of food, mechanical obstruction, pain, worry, and possibly infection and absorption of disintegrating tissues. As a single prognostic factor it is probably of little significance, but taken in association with other factors it adds gravity to any prognosis. It must be kept in mind always that persons who are underweight are usually better surgical risks than those who are overweight.

11, 12, 13, and 14. Cellular differentiation, lymphocytic infiltration, fibrosis and hyalinization. Differentiation is undoubtedly important, but not as important as some clinicians have thought. It is of great scientific interest, but in considering its immediate clinical value, one must not forget that there are some exceptions to the general rule that favorability of prognosis is proportional to the degree of differentiation. There can be no doubt that there is some relation between the degree of differentiation of tumor cells and their rate of growth, but rate of growth is variable even in the same tumor. Size, situation, infiltration, nodal involvement, fixation, lymphocytic infiltration, fibrosis and hyalinization must all be taken into consideration.

Table 5

RELATIONSHIP OF PRESENCE OF NODAL INVOLVEMENT AND SIZE

Organ	Cases	Size, cm. Largest	Smallest	Average	Percentage with nodal involvement
Grade 4					
Stomach	55	15	3.0	7.8	85.0
Breast	72	13	1.0	5.4	75.0
Colon and rectum	10	9	5.0	4.4	80.0
Grade 3					
Stomach	67	15	2.5	5.8	62.0
Breast	53	7	1.0	3.25	58.0
Colon and rectum	58	15	3.0	6.1	77.0
Grade 2					
Stomach	25	16	1.8	6.7	12.0
Breast	32	12	0.8	3.4	18.7
Colon and rectum	138	13	1.0	5.6	35.0
Grade 1					
Stomach	1	7	7.0	7.0	0.0
Breast	0	0	0.0	0.0	0.0
Colon and rectum	21	11	1.5	4.9	9.5

A study of Table 6 reveals the value of differentiation, lymphocytic infiltration, fibrosis and hyalinization, all of which cannot be determined without detailed microscopic study.

Table 6

VALUE OF DIFFERENTIATION, LYMPHOCYTIC INFILTRATION, FIBROSIS AND HYALINIZATION

Factor	Average length of Postoperative life, years: Stomach	Breast	Rectum
With lymphocytic infiltration	2.73	2.51	1.57
Without lymphocytic infiltration	2.7	2.48	1.31
With differentiation	2.73	3.65	1.54
Without differentiation	2.56	2.37	1.08
With fibrosis		2.72	1.53
Without fibrosis		1.87	1.29
With hyalinization		2.81	2.33
Without hyalinization		2.21	1.44
With lymphocytic infiltration and differentiation	2.8	3.78	1.59
Without lymphocytic infiltration and differentiation	1.55	2.45	0.71
With differentiation and fibrosis		3.87	1.58
Without differentiation and fibrosis		1.96	1.15
With differentiation and hyalinization		4.0	2.33
Without differentation and hyalinization		2.04	0.61
With fibrosis and lymphocytic infiltration		2.69	1.65

Without fibrosis and lymphocytic infiltration	1.4	1.17
With lymphocytic infiltration and hyalinization	2.76	2.25
Without lymphocytic infiltration and hyalinization	1.68	1.27
With fibrosis and hyalinization	2.89	2.33
Without fibrosis and hyalinization	2.05	1.28
With lymphocytic infiltration, differentiation, fibrosis and hyalinization	4.4	2.25
Without lymphocytic infiltration, differentiation, fibrosis and hyalinization	1.52	0.76

15. Duration of disease. Nothing is more inaccurate and unreliable than the recorded duration of disease in most written histories of cancer. Duration is more important when applied to individual signs and symptoms, which unfortunately have nothing to do with the type or grade of cancer itself. Signs and symptoms in cancer have to do with size, anatomic situation, mechanical obstruction and hemorrhage. Even pain is usually insignificant unless associated with mechanical obstruction. None of these is diagnostic of cancer, or even prognostic, if treatment can be instituted. Many benign conditions present such signs and symptoms, and may have been present long before cancer has arisen. In other words, it is often impossible to decide or determine the duration of the actual malignant growth in the great majority of instances. As a single prognostic sign it has little value. Inoperable cancers, especially of the stomach and colon, frequently have very short recognizable histories. In general, the duration of the disease is mainly of value taken in conjunction with other factors.

Now before concluding, something practical relative to the frequently used term "biopsy" should be stated:

The term is used ordinarily to mean microscopic visualization of tissue removed during life. Four functions are served by the procedure: differential clinical diagnosis, research, prognosis and the direction of treatment. Of these the first and last are at present of greatest practical importance. Since there are no reliable clinical or serologic tests for the recognition of cancer in its early stages, and since cancer is frequently associated with chronic inflammatory conditions which give signs and symptoms, experience has taught that biopsy is the only means of making a differential diagnosis in many instances. The situation has been made simpler by perfection of surgical technic and by the utilization of pathologists as necessary clinical adjuncts to the practice of medicine and surgery. The risk of removing tissues is almost nothing when it is done by well trained and experienced surgeons. In clinical practice, dealing with attempts to treat cancer in its early stages, the following rules have been of value:

1. Every chronic sore or lump, especially if recently acquired, which does not disappear, or become smaller, or show signs of disappearance after two or three weeks of local treatment (rest, local antiseptic care and general hygienic care) should be subjected to biopsy. It should be excised if possible rather than incised.

2. Tissue for biopsy should not be removed unless the one who removes it is capable of performing the radical operation in case a malignant condition is found, or unless he is in close proximity to some one capable of completing the operation.

3. The biopsy should not be performed, as a rule, on small, doubtful lesions situated near epiphyseal lines in children. There are, perhaps, rare exceptions to this rule.

4. Biopsy should not be undertaken if the immediate and ultimate operative risks are greater than the possibility of cancer.

5. Tissue may be demoved by incision of the sore or lump, if it is large, and if it is thought to constitute a hopeless condition in which there is only a small chance that the lesion is not malignant. Immediate radical operation should follow the diagnosis if experince shows that radical operation will prolong useful life or that it will make even a short life free from lingering suffering; otherwise it is unnecessary.

6. Biopsy may be done by means of surgical exploration of body cavities in which some unrecognizable but incapacitating pathologic condition is known to exist. Differential clinical diagnosis of conditions of the abdomen, bones and central nervous system is becoming more difficult, and experience with surgical exploration shows that many small cancers are being found. In the hands of well trained surgeons, risks of exploration are relatively small. The conservative surgeon is likely to refrain from exploration unless the patient is at least partially incapacitated, unless roentgenologic studies reveal a definite lesion in one of the systems, or unless, even though roentgenologic signs are absent, the patient's incapacity is increasing despite ordinary nonsurgical treatment.

Material removed for biopsy is studied best at the time of operation, and in a fresh, unfixed condition. It may be fixed, cut by the frozen tissue method, and stained, or it may be embedded in paraffin or celloidin, cut and stained in the usual manner. The first of these (fresh and unfixed) is the best in the hands of those especially trained in living cytology; fine details of cellular morphology are lost after fixation and embedding, leaving only histologic criteria by which the nature of the specimen can be judged. I feel, after long experience with all methods, that the fresh tissue method gives about 10 per cent greater chance of recognition of early cancer.

In conclusion, may it be said that progress in handling the cancer problem rests for the present at least on more complete examinations (especially with roentgen rays and biopsy), the recognition of the fact that early cancers do not give symptoms of cancer as described in text books, the general acceptance of the relationship of chronic inflammation to cancer, and the elimination of much if not all of our confused and not universally accepted terminology. If these simple and established facts form an intimate part of the practitioner's system of dealing with all patients, then he will surely discover many early cancers and properly care for the 2,000,000 or 3,000,000 which are now waiting to be recognized. There is no use talking about "early diagnosis" and then expecting to make diagnosis in this stage by signs and symptoms of cancer. The various organizations for the dissemination of knowledge to laymen have done their work well.

University of Tennessee

By J. S. Coe

If that factor was to be selected which had contributed more to the success of the University of Tennessee medical college, it would probably be the wealth of clinical material available in Memphis, and, due to the staff in charge, the advantage to which it is used.

The University of Tennessee is directly connected with the Memphis General Hospital, which has its Out-Patient-Department in the university buildings, and in a lesser degree with the Baptist Memorial Hospital.

In the O. P. D. the Junior medical students, supervised in every case by a competent practitioner selected from the best doctors Memphis has to offer, is given practical instruction in every phase of the profession. In 1932 there were a total of 141,626 patients seen in the O. P. D.—an increase of almost 100,000 over a period of 10 years. Since it was moved to the University buildings in 1929 from the Memphis E. E. N. T. Hospital, the department of Ophthalmology alone has gained in the number of patients from 32 to 2,023, and that of Otolaryngology from 93 to 5,168.

Special clinics are held weekly for tubercular patients of which a total of 2523 were seen in 1932. The latest addition is the weekly clinic in Diabetes Mellitus, to which a course of three hours a week is given in the tenth quarter. This clinic is the result of the devoted efforts of Dr. Jacob Alpirin who has given much time and work in this special field.

In the senior year the student is given instruction on the wards of the Memphis General Hospital. Here he can avail himself of the opportunity of seeing practically every ailment suffered by mankind.

In 1932 there were 12,429 patients admitted and treated at this hospital and an additional 16,950 treated in the receiving ward but not admitted. There were 9, 014 x-ray examinations made and 1,274 Roentgen treatments administered.

One of the best services offered is the Obsterical service. In their junior year the students act as assistants to the senior student in charge, who, with a nurse, delivered in the patient's home in 1932 a total of 892 Obstetrical cases—an additional 1263 cases were delivered in the hospital in that year.

In the surgical department in 1932 there were 1346 major operations with an additional 50 major Obstetrical operations performed—1991 minor operations with 496 minor obstetrical operations, and 1065 miscellaneous proceedures, such as cystoscopies, soundings, etc., for a total of 4948 surgical endeavors.

In each phase of the Profession the department head is a man with wide acclaim and vast experience in his field and under him are the most proficient group of doctors available anywhere. And if you Mississippians are curious to see what your great state has contributed to all this, count the doctors represented who call Mississippi "home." You will not be other than proud.

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President's Address*

BY J. GOULD GARDNER, M.D.
Columbia, Miss.

This is the fourth meeting of the Mississippi Hospital Association.

At this time it is customary for the President to give account of his stewardship, and make suggestions which may benefit the patients in our hospitals, also, to suggest ways and means of helping those unable to receive hospital care.

The object of this Association as defined in our constitution, has been kept in mind this year. Whatever progress has been made is due to the splendid team work, for which I acknowledge my sincere thanks for the untiring efforts and guiding hand of our Secretary, Dr. Leon S. Lippincott; the committee chairmen, and members of all the committees; grateful acknowledgement is made of the work of the Legislative Committee, headed by Dr. John C. Culley; the Community Hospital Committee with Dr. V. B. Philpot as Chairman, and the committee on Community Hospital Legislation of the Mississippi State Medical Association, of which Dr. E. R. Nobles is Chairman. Finally I point with pride, to the fine support and endorsement of our policies by the medical profession of Mississippi.

The officers and members have endeavored to improve and build this association, also, to encourage better hospital care for all economic classes. A campaign has been inaugurated with the medical profession, its allied groups, and with the laity, presenting facts and figures to prove the unfairness in many ways of our present State Charity Hospital System, explaining at the same time, the logical way out of our present dilemma and asking for a new deal for the indigent cases of our state.

"The care of the sick through all the ages has been the index by which might be judged the progress of human civilization." Consider, if you will, the care of the helpless in such countries as Great Britian, France, Germany and America with the less civilized, uneducated countries of the earth. Reflect also, upon our own state civilization and educational opportunities, with its primary schools, high schools, consolidated high schools, agricultural high schools, junior colleges, a college for men and a college for women, state teacher's colleges and a modern university. All these institutions are financed by taxation, providing a place where every youth in the state may obtain an education. This is as it should be, to prepare our children to meet world competition later in life. According to the figures obtained from the Secretary of the Budget Commission, there was spent for our six institutions of higher learning alone, the "grand total from all sources and for all purposes, $5,125,084.-

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*Delivered May 9th before Mississippi Hospital Association, Jackson, Miss.

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00. This amount does not include, of course, the amount spent on students attending other universities outside the state, or the denominational colleges, and only included the cost after they graduate from the high schools. Compare this magnificient set-up with our dilapidated, obsolete and niggardly supported charity hospitals, operated by politicians for the care of the state's indigent cases. The average cost per student for 1931 in our institutions of higher learning, was $376.93, while the per capita appropriation for the worthy charity poor, was a mere, .07 cents. I am not protesting against the money spent in educating our youth, it is money well spent, but I am decrying the willful neglect of our unfortunate charity cases. Education has become essential, it should be encouraged, but human life and limbs should be saved.

The state appropriation for the five state charity hospitals for 1932-33 was $150,000 and $39,000, distributed to thirty-five voluntary hospitals throughout the state, making a total of $189,000; this compares with one million appropriated for the two State Insane Hospitals; in other words, the states spend over five times as much to care for the mentally sick than they are spending to save the lives, limbs and bodies of those acutely ill. The appropriation for the State Sanatorium is inadequate when considered in terms of lives against dollars and cents; needed admissions have been prevented because of insufficient funds, but even the appropriation for treating tuberculosis alone is approximately $100,000 more than is appropriated for the care of all cases by the state, excluding the Insane Hospitals.

We have here in the State of Mississippi a most peculiar set-up, unique in the hospital world; it is, in fact, almost unbelievable in the light of our present day civilization. Of the nine state owned and state operated charity hospitals in the United Sates, six of these are located in Mississippi. There is one in each of the following counties: Adams, Jones, Hinds, Lauderdale, Warren and Lafayette. Five of these hospitals are located in south-central Mississippi, all functioning. The sixth, was built in Oxford two years ago, at a cost to the tax payers of $125,000 uncompleted and equipped. Although this is the only charity hospital located in North Mississippi and where one is most urgently needed, still, it has been permitted to remain unfinished, unequipped and unoccupied for a period of two years, standing there as a monument to our governmental blunders. Besides the six state owned hospitals in Mississippi, there are two most rigidly politicalized charity hospitals in Louisiana, one in New Orleans and one in Shreveport. The other state-owned hospital is in the State of Rhode Island. Except for the political domination which history shows has always been detrimental to good hospital service, in the State of Rhode Island, on account of its small area and congested population, it is possible that a state-owned charity hospital may be justified; there is, however, no justification for state operation of the others.

It is conceded, with one exception, that our five institutions served a useful purpose in by-gone days when surgeons were as scarce as hen's teeth, when modern medicine and surgery as practiced today and modern equipment and apparatus were unknown, when the public was uneducated to the needs and benefits of hospitalization. But now, with a well trained surgeon in every good community, with the realization of the necessity of proper equipment for diagnosis and treatment in every day practice by both physician and patient, with the increasing general public demand for modern hospital care, for these and other reasons, our present charity hospitals have out lived their periods of usefulness and should be abandoned.

The five charity hospitals, according to their own figures, are strictly local propositions, serving mainly the counties in which they are located. The records also show that from 31.6½ to 56% of the money appropriated to these hospitals was spent in caring for patients originating in the counties in which the hospitals are located. The adjoining counties receive the balance, so that there is practically no distribution in 60½ of the counties of the state. It is the battle cry of our forefathers, "taxation without representation."

There are many other reasons why our Charity Hospitals are not providing modern hospital care. I shall enumerate only a few of the most pertinent. In our modern world, fast transportation has become the rule. Last year the morbidities and mortalities surpassed in numbers our killed and wounded in the World War. There are numerous other emergencies which should be rushed to a near-by hospital: for example, compound and comminuted fractures; brain injuries; these, and many other cases, some requiring an anesthetic or x-ray examination and immediate surgical treatment to save lives and limbs and to restore proper useful function; accidental and homicidal injuries, severe infections, local and general, which may produce gangrene and death. There are the acute abdomens, perforating gastric ulcers, strangulated hernias and acute appendicitis; these are examples of a large class of patients in which the most gentle transportation and prompt surgical care is imperative. The high mortality rate shown in our State Institutions following appendectomies is not the fault of the surgeon; time and transportation bring about the dissolution in most of the cases. Patients already acute and suffering, the inflammation spreads from the jars and jolts of a long trip, the toxemia increases, the resistance lowers and disaster supervenes from the toxemia and shock.

Medical emergency cases, of these there are many, and are best understood by the family physician who more than likely brought them into the world. The family doctor, the greatest benefactor of man kind, could tell you of the times he has needed the facilities of a community hospital, the surgeon, the anesthetist, the laboratory and x-ray; in fact, the whole hospital, for some charity patient. The fact that the patient is a charity case matters not to him if a life can be saved. These medical cases, requiring immediate hospitalization, might be patients requiring immediate blood transfusions, repeated infusions, or perhaps a continuous proctoclysis. He may be called to a family in which the child has laryngeal diphtheria, the mother with a high fever yet to be diagnosed, the father down with rheumatism, and grandpa with another attack of acute retention—these and many others, it is all in a days work of the family doctor. He does his work well and without complaint, but he could render better service to these charity patients in a community hospital, and with much less loss of time and effort if they were segregated there.

There are large numbers of other conditions afflicting charity patients, and while not classed as serious, are nevertheless, more or less painful and disabling; examples of these would be carbuncle, Colles' fracture of the wrist, Pott's fracture of the ankle, middle ear infections, minor burns, cuts, bruises, and a host of others which would be a waste of time and money to transport to a distant charity hospital; still, their condition demands treatment, they could and should be treated in the community hospital at home.

The political influence dominating the personnel of these institutions is detrimental to the best interest of the medical profession and to the patients whom they serve. The inspiring elements of competition for work well done is lacking. The tenure in office of the House Surgeon and other employees is dependent upon the appointee and not upon how well the duties have been performed. They realize when the State Government changes they will be replaced by other favored ones, so that the feeling of security and permanency, the desire to build a permanent future in the institution, is lacking. There are at the present time and have in the past some good men in charge of the charity hospitals; also, there have been appointed surgeons-in-charge whose only attributes were political affiliations, selected regardless of educational attainment, interneship, fellowship, previous experience or training. It is a travesty on justice when the sick and helpless who have no choice but are forced through poverty, to submit to this iniquity. Whether the persons appointed are good or bad, the fact remains that this appointive system is wrong; it is a dangerous thing in the hands of a heartless politician, and should be condemmed by decent society. Men selected for the heads of these institutions should be of the highest type personally and professionally. Their tenure in office is dependent only upon professional and administrative competence.

The Final Report of the Committee on the Cost of Medical Care recommends that the medical services both preventive and therapeutic, should be furnished largely by organized groups centered around a hospital for rendering capable medical service to the community. The Committee recommends a closer affiliation in therapeutic and preventive medicine; this we could do if each group received a reasonable appropriation. I quote from the Final Rereport of the Committee on Medical Care for the American People, "In view of the potential ability of public health activities to raise the general level of health at a relative low cost, American Communities have been pitifully backward in utilizing modern public procedures. Of the entire $30 per capita spent for the prevention and care of disease, only $1 has been used for public health service, whereas satisfactory service calls for $1.79 to $2.13." It is worthy of note that this committee deplores the niggardly appropriation of $1; it would be interesting to get their reaction on our state appropriation of 8 cents; thus, the state appropriates for both curative and preventive medicine the grand total of 15 cents per capita. Of course, this limited allowance seriously limits public health activities, which also indirectly increases the amount of sickness by not preventing those diseases which were preventable, thereby contributing to needless sorrow, suffering and death.

The committee just referred to has shown that the complete cost of medical care per capita in the United States is approximately $30 per year, or $120 per the average family; this includes the expenses for doctors, dentist, drugs, eye-glasses, hospitalization, nurses, etc., of this amount physicians receive 29.8, hospitals 23.4, medicines 18.2, dentist 12.2, the balance in smaller amounts. The studies of this committee also showed that the percapita income in the Middle Atlantic States was $1039 as compared to only $328 in Mississippi; these statistics were accumulated in 1926. Only the Lord knows how little the annual income of our rural inhabitants has been for the past three years. Their statistics further showed, as stated above, that the average per capita cost for capable medical service in America, was approximately $30 per year; however, in Mississippi, the average amount spent was $11 per capita. The marked difeference shown is not because we are healthier in Mississippi than are the people in other states, or that the people of a majority of the states are more sickly than we; it is due to our low earning power, especially in the rural counties, and as a result of the low income, satisfactory medical service is not obtainable.

Pain, sickness and bereavement have shadowed mankind through the ages at intervals; poverty and disease have stalked mercilessly together, ravishing humanity. In spite of the published, incorrect, psychological reports that general health conditions are better now than ever before, it is a historical fact that poverty and disease go hand in hand, as a civilized people, it is our duty to contribute to their needs for food and shelter, and it is also our obligation as medical men and women, to use our best efforts in caring for the worthy indigent cases. During the month of December 1932, 23.8 per cent of the people who died in Mississippi, died without the services of a physician. These facts are from the office of the State Board of Health; as we read them we become indignant when we realize that the greatest asset of any nation is the health of its people. The doctors of Mississippi are not to blame for this horrible condition; they have not only done their bit, but they have done their best. There is no just reason why the care of the indigent cases should not be cared for by public funds any more than there is that our police protection, courts, schools and churches should be financed in this way.

We have here in Mississippi approximately fifty Voluntary Hospitals, well distributed throughout the State, and would therefore be easily accessible to a majority of the patients, and at least reasonably accessible to the most remote communities. We have a total membership in this Association this year of forty-seven. Eighteen of our hospitals have been approved by the American College of Surgeons and are members of the American Hospital Association. There is bed capacity sufficient in these hospitals to provide ample facilities for the indigent cases of the State; these hospitals are operated by the very highest type of administrative and professional men and women; their permanency, their entire future and success is dependent upon their ability, their integrity, and reputation for professional accomplishment are held inviolate; the charity patients placed in their charge will receive the same care and attention that has contributed so much to the good name and success of these institutions. "A good name is rather to be chosen than riches," and the joy of work well done will insure the indigent patients in the voluntary hospitals every care they should reveive. The success of the hospital depends upon the service it renders and the recognition of this service by the public. The fact that the voluntary hospitals in the State have been a success, indicates the service they have rendered; furthermore, the phenomenal growth of the voluntary hospitals not only in Mississippi but throughout the Nation, signifies their importance and usefulness. The Community Hospitals whether privately owned, denominational or community owned, have become essential in community life. Speaking for the indigent cases and the same is true of all classes, the community hospital is readily accessible. There is an acquaintanceship between the patients and physicians; this gives the patient a feeling of security; this acquaintanceship assures the worthy charity patient admittance; it also enables the institution to reject those who are able and should pay. This valuable information is unobtainable in a distant hospital where the people are unknown. Emergency patients may be admitted promptly; this is important in many cases, a means of saving life. The Community Hospital reduces transportation cost, making unnecessary the long, hard injurious journeys of the suffering patient; also, it is convenient for the family and friends to visit the patients from day to day, to bring flowers, or some special article of diet they would enjoy. In all these things the Community Hospital excels.

Benefits to the Local Physician: It provides a place where the local physicians may take their charity patients who are in need of hospitalization, patients scattered over a large area, far removed from each other, may be segregated at the Community Hospital; he could visit them all in a short time, thereby saving himself much time and effort by avoiding the rural visits. It provides a place where consultation may be had, where equipment for diagnosis and treatment will be available to the local physician, equipment and apparatus, which each doctor individually could not own and could not operate. The library would be available to the local physicians; in fact, the Community Hospital is the medical center for the community.

Benefits to the Community: The phenomenal growth of five thousand hospitals in America in the last thirty years indicates their importance to the communities; in all classes, rich and poor alike, there is a feeling of security with the knowledge that a good hospital with an efficient personnel is available. Residents of the community will receive treatment sooner and will return to their homes and work with less loss of time. Because of the availability, more worthy patients will receive treatment, minor illnesses and injuries not necessitating a long journey to a distant hospital will be treated promptly at home and the patient restored to usefulness; there will be an equal distribution according to the population of each community.

Benefits to the State: No capital investment will be required, there will be no depreciation on buildings or equipment; the salaries and other expenses paid for the operation and maintenance of the five institutions will be eliminated.

The harmful political influence which has dominated our charity hospitals since their inception, will be replaced by scientific medical and hospital influences. The benefits will be equally distributed throughout the state, without fear of punishment or hope of reward.

Your President submits for your approval the following recommendations: That the care of the indigent cases in Mississippi be removed from political influnce which always has been and always will be detrimental to best service. The very fact that hospitals are fifth in the list of the gigantic business enterprises of America, it becomes apparent that only well trained men in this particular field should conduct its affairs. The average politician even the "practical politician well versed in the science of Government," without special hospital or scientific training, would know no more of the necessary requirements for adequate hospital service than he would know of the technique of a major operation.

It is recommended that the present State Charity Hospitals be abandoned and that they be used as community hospitals to serve the community in which they are located. Furthermore, that the appropriation by the state to these hospitals be identical with that of the other community hospitals.

It is recommended that the State provide one hospital, to be centrally located, for the care of incurable cases of long duration. Such cases, as a rule, should not be confined to a general hospital with the acutely ill; many do not require professional nursing, a maid or an orderly being sufficient. On account of the long duration of many of these cases, they could no doubt be handled more economically, all in one institution under state management; besides, this would release the space in the community hospitals for active cases.

A new bill will be presented to you this morning providing for state aid for the care of indigent cases in our voluntary hospitals. Your President recommends this bill and asks that everyone as an individual, and collectively, as an association, use every effort to have this bill written into our statutes.

A fraud law protecting hospitals is recommended: All hotels in the state are protected against frauds by law. They provide only room and board, often, only a room with cheap bellboy service; the hospitals provide room and board, drugs and dressings, anesthetic, expensive apparatus, day and night heat in the winter, day and night fan in the summer, and day and night service all the year through by trained employees. There is no justification for this unfair discrepancy.

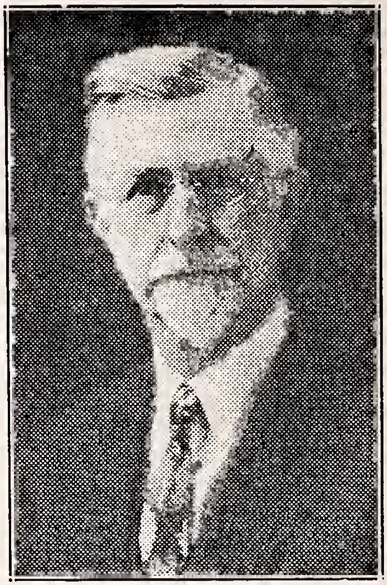
A Prior Lien Law is recommended for the protection of physicians and hospitals for the care and treatment of certain injured persons, covering highway accidents, corporation employees, etc. Nearly one-half of the states have driver's license laws, Mississippi has not. Our Legislative Committee will present a Bill for your approval.

A Workman's Compensation Act. Forty-five states in the Union have a Workman's Compensation Law; Mississippi is one of the three lagging behind, ultimately it will be passed, thereby permitting many new industries to peacefully invade our state and invest their money without the fear of molestation by shyster lawyers. A study of this law as passed in various states shows that in a number of states the fees for physicians and hospitals were entirely inadequate. Your active Legislative Committee has been studying this subject carefully; they will make their recommendations. It is your duty to see that they are carried out. The Legislative Reference Committee of the American Hospital Association recommends a special round table of a legislative body composed of the members of the national and auxiliary committees (one appointed from the legislative committee of each state) to meet for a discussion of this subject. We should be able to assist them with federal matters and no doubt they will be able to help us with our state legislation. Your President recommends this affiliation.

A lobby is recommended; the members of our association must learn from those who get public funds how to get in on these appropriations. We need the help of our influential citizens of each community property organized and directed—we need the help of a capable lawyer, one who would be on the job all the time and work with our Legislative Committee, "This Unofficial Representative" should be on the job during the formation period of lawmaking to protect us by inserting in prospective bills articles helpful to hospitals and by blocking legislation which would be detrimental. The lawyer should be paid for his service by this association.

Every institution or organization that receives an appropriation from the state has a lobby. Just because you have every right in the world to an appropriation is no reason to think you are going to get it without a fight—it is public money for the greatest public service to mankind and when you go after it in the right way you can get it.

In Conclusion: If there are any among you, or anyone, anywhere who believes our State Hospitals are functioning properly, I urge you to visit all of these institutions, observe carefully, with an unbiased mind the existing conditions prevailing, the buildings, equipment, everything pertaining to medical care. Visit an Insane hospital where twenty-six hundred patients are housed in a firetrap, where they live demented, with improper treatment, where they die and are buried without prayer, in an unmarked grave while five million dollars worth of buildings are idle, unoccupied, standing as souvenirs to governmental blunders. That the minds of many of these patients do not realize their predicament is an act of mercy, but the acutely ill whose minds are sane and sound, do recognize neglect and injustice. If our civilization is to endure these things must be changed. It should be the purpose of this association to provide adequate hospital care for all who need it; those who are able to pay, should pay; laws should be passed protecting the hospital against the "dead-beat." Those who can pay part should do so, the charity patients should be paid for at actual cost by state appropriation. The Mississippi State Hospital Association is the biggest little association in the state today. I predict for it a bright future and the greatest benefactor to all the people of all the state.



Dr. W. A. Johns, of Corinth, Eye, Ear, Nose and Throat constitute his speciality. He is in high up fraternal circles. He is always found on high ground in the profession. He is loved and reverenced and appreciated by all who know him.

Public Health News Items

EXAMINATION NOTICE

The Mississippi State Board of Health will hold examinations for license to practice medicine June 22 and June 23, 1933 at the new captol, Jackson, Miss.

Examination on first two years, June 22. Bring or send certificate for verification.

Examination on last two years, June 23. Bring or send diploma for verification.

Write for application blank to R. N. Whitfield, M.D., Assistant Secretary.

Complete official statistics have revealed that Mississippi's 1932 death rate is the lowest ever recorded. Marriages in 1932 exceeded those of 1931, despite the financial crimp, and 1932 divorces were fewer than those of 1931. To complete the trinity, incomplete birth records for 1932 also indicate an increase over the previous year. Fewer deaths, more marriages, fewer divorces, and more babies! That is quite a record. Those physicians in Mississippi with preventive medicine have integrated their general practice are due much credit for the lowered death rate.

Dr. J. C. A. Ultee, Inspector of the Public Health Service, British West Indies, is in Mississippi for a two weeks observation and study. Dr. Ultee was awarded a travel grant by the Rockefeller Foundation and came to Mississippi to study the program of the full-time county health departments. The Rockefeller Foundation is to assist in the inauguration of similar work in the British West Indies.

On May 29 and 30, there will be at Jackson the annual meeting of Mississippi Public Health Nurses. An interesting and worth while program has been planned.

The Community Hospital*

BY DR. JAMES M. ACKER, JR.,
Aberdeen, Miss.

One of the salient points made by the Commission on Medical Education organized in 1925 by the Association of American Medical Colleges was as follows: "Emphasis must be kept constantly upon the fact that only through a sufficient number of properly trained physicians can a community expect to meet its responsibilities for the care and prevention of illness and the protection of health." In my humble judgment, no community can expect to meet its responsibilities in the care and prevention of illness without both the properly trained physician and the well organized and equipped hospital. What I have to say tonight relates especially to the smaller towns of Mississippi with their large rural territory and not to the few cities or industrial centers. Our state is largely rural and it is of these sections with the small towns of from 1500 to 6000 inhabitants that I wish to call your attention. Each one of these small towns has an outside population of from ten to thirty thousand people who are deserving of hospital care when the occasion arises. In many of these sections there are small privately owned hospitals and in a few there are community, county or municipally owned institutions. These privately owned hospitals have done and still are doing a wonderful work. They have taken care of their respective territories and in many instances, the owners have suffered severe financial reverses. In my opinion there are few owners of hospitals in the smaller towns who would not gladly give up their hospitals if they could have free and easy access to a well equipped and well-staffed community institution. The only justification for individual doctor's ownership of small hospitals in small towns lies in the fact that the conscientious, reliable and ambitious doctor must have a place in which he can give his patient, rich or poor, medically or surgically, the best possible service. Since this service cannot be obtained outside the hospital, it becomes necessary that the doctor build, equip and operate his own small hospital. Many are his sacrifices in order that his community may receive the benefits of modern medicine and surgery. How much better it would be if every community or county could have a hospital to which all the doctors might carry their patients, giving them the advantages of modern treatment at a price that the man of moderate means could afford. These privately owned hospitals, as a rule, are closed institutions, that is, they are not open to other doctors of the community, especially if the doctors happen to be in the same line of work as the owner. Can you blame them, since the owner has a hard enough time supporting his own hospital in order to meet his own individual responsibilites? As said

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*President's address, read before Mississippi State Medical Association, May 9, 1933.

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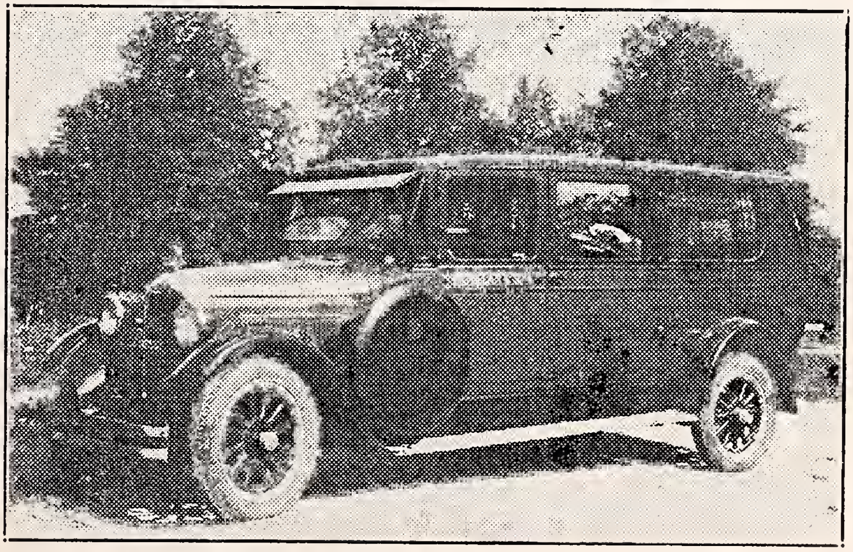

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before, my observations relate especially to the smaller towns with large territories and not to the Mississippi cities. Neither would it apply to any locality, if any there be, where the privately owned institutions are "balancing the budget," and all the doctors as well as the public are satisfied.

A Community Hospital is an open institution that can provide such diagnostic and treatment services as the majority of doctors in their individual capacities can neither well afford nor conveniently use, and to so attract, hold and develop a medical profession that will serve efficiently not only the few patients confined in the hospital but the many patients in the community at large. It is only when a hospital exercises its full influence in the development of an efficient medical service that it ceases to be a building for the care of a few sick people, for a few certain doctors, and becomes an important factor in the life of the whole community. In the achievement of this larger purpose two considerations are paramount. The first consideration is that diagnosis is primary to treatment. Therefore the hospital should furnish and encourage the use of diagnostic facilities and service not only for the patients in the hospital but for the sick of the entire community. This will mean a well arranged, equipped and organized outpatient department, properly related to the diagnostic equipment and service of the hospital. Such an outpatient department would encourage the local doctors to use it both for their outpatients and inpatients and through the interest of these physicians thus acquired would serve to maintain a normal occupancy of hospital beds with normal per capita per day cost to patients. The second consideration in the planning of a community hospital is that it shall meet the general needs of the medical profession as a whole and not designed to meet the particular needs of certain men. The interest alone of the internist, the laboratory worker, the X-ray specialists, the surgeon, or the obstetrician, should not be overemphasized. Neither should it be designed and built solely for the doctors of any certain generation. The coming generation of doctors should be thought of, for truly the community hospital should stand and function long after the present generation has passed to the Great Beyond.

Sickness surveys carried out by thoroughly trustworthy agencies have found that from two to three per cent of the population are sick all the time. This means that from twenty to thirty persons in every one thousand are in bed every day in the year. Of these, it has been found that from 5 to 20 per cent, an average of 10 per cent are so seriously ill as to need hospital care. To illustrate, if the above rates are applied to a county of 30,000 people, they indicate a bedridden illness of from 600 to 900 people daily, that is, a daily average of 750 cases of sickness. Of these, 10 per cent, or 75, constitute the ones who really need hospital treatment. Of these seventy five people who are sick, taking a North Mississippi county as a fair

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example, probably 15 of them are well able to pay for their medical services, 45 belong to the class of moderate means, and 15 come under the head of charity cases. Since the rich can take care of themselves and the poor have always been taken care of, both by the doctors and the private hospitals, even through a period in Mississippi when the small private hospital received no state aid, it is the patient of moderate means that concerns us most. The hospital not only saves the time of the doctor but it saves the money of the town as well as the rural patient. Take for instance either the urban or rural patient who is sick enough to be in a hospital. If he stays at home, he should be under the care of a nurse and the Doctor, feeling the responsibility of his patient's life, makes an increased number of visits per day. Both the nurse and the extra visits call for more expense. If this same patient were entered in the hospital, in the majority of cases, the nursing could be carried on intelligently by the graduate or even the student nurse, and the Doctor would be required to make fewer visits. This saving of money in nursing and Doctor's visits per day would double what a room in a well managed hospital would cost. This applies to the urban patient but is especially true of patients who live at some distance from their Doctor and are not only charged the regular fee for professional visits, but frequently enough, extra mileage to more than pay for their hospital care. To illustrate, a patient living six to eight miles in the country, and that distance removed from his physician, is charged in addition to the professional fee for the visit, a mileage fee of $1.00 per mile, one way, or a total mileage cost for each visit of from $6 to $8. Mind you, I am speaking of what happens in normal times and what we, as Doctors, are really earning and supposed to realize. One readily sees what a hardship this would be on the patient of moderate means, for the extra mileage cost per day would take care of from two to three days in the hospital. The Doctor can assemble his patients in a hospital where in a few hours he can treat under more favorable conditions as many patients as would require his attention in a full day, especially if they were scattered widely around town and over rural territory, and for one-third as much money to the patient.

Another observation from the report of the Commission on Medical Education that "There are more physicians in the U. S. than are needed to provide adequate medical service for the country." This is probably true since valuable data indicates that proper medical service can be provided on the basis of one active physician to from one thousand to twelve hundred persons. If it is true, the present number of physicians exceeds the need by at least 25,000. I am of the belief, however, that the number of thoroughly qualified physicians is, and always will remain insufficient. It is known positively that there is an oversupply of physcians in the cities, whereas in some parts of the country districts there is a marked relative shortage. The development and support of better central facilities for medical and surgical practice in the smaller communities will be the most outstanding factor in correcting this uneven distribution. The average young man after finishing his medical education and interneship, is ready and anxious for work. Equally true, is the fact that he is short of funds. His first idea is to locate where he can pursue his life's work intelligently and to a fair degree remuneratively. Can he do these things in the country if he is an internist, surgeon, laboratory man, pediatrician, obstetrician or what not without the numerous aids of today in medical practice, as hospitals, laboratory, X-ray and the like? The answer is NO. The ambitious young man must have these things and without funds, unless he is fortunate enough to form an association with some well established hospital owner, he goes to the city adding one more personage to the already overcrowded city medical profession. How can such a thing be prevented? The Community Hospital, open to all ethical and competent men, will induce the young man to settle in the smaller town. As said by no less person than Dr. John Osborn Polak, "The Community Hospital is the solution of modern medicine for the rural district."

It is not likely in the rural communities and small towns, where neither the medical profession nor the public have become accustomed to the use of a local hospital, that the demand for hospital beds will be in excess of one third of the estimated number of hospital cases ,from two to three per 1,000 persons. This would mean that the other two thirds of the hospital cases would continue, for a time at least, (and this happens everywhere) to go elsewhere for hospital care. If this reasoning is sound, then an average rural county that never had a hospital could very reasonably build its hospital providing one bed per thousand. This would mean a 30 bed hospital for a county or community institution serving thirty thousand people. The next thing to consider in your community hospital ideas is the way and means of providing this thirty bed hospital. There are several ways that the hospital may be built and as each community is guided solely by its own individual circumstances, I shall only mention several different schemes. 1st, some wealthy person, feeling his obligation to his community and believing that a hospital would be the kindest expression of gratitude, sets aside a certain amount of money and builds for his town or community a hospital. That is, of course, the ideal solution and if this same person would endow the hospital for a certain amount, it would be still better. Secondly, it may be built by public spirited individuals banding themselves together as a nucleus and building the structure by means of public donations or subscriptions. Third, it may be built by some religious, philanthropic or charity organization, and fourth, it may be done by a county or municipal bond issue. During the present time, at least, this last way, I fear, would be unpopular. Nevertheless, any community hospital is worth the money. I am a great believer in an equal distribution of responsibility when it comes to community obligations. Everybody's hosptal, everybody sharing in the payment for same. As to the cost of building and equipment, it can be made to cost anywhere from $45,000 up. In basing my estimate, I have in mind the average fully equipped thirty bed institution and am striking an average from a number of small hospitals, this same size that have been built in this and other states at a total cost of from $1400 to $2100 per bed.

As a State Medical Society, we are, I believe, striving to give all the people of the state the best medical service possible under prevailing conditions and to do it so that as a whole they like and approve our endeavors. In preparing our young men for medical service, we all know that a full medical course, better followed by an interneship, is absolutely necessary. Up to the present time, we seem to have lost sight of the fact that unless the young M. D. has a wealthy father, or father-in-law, he cannot equip himself to practice scientifically, so he must locate near a hospital or associate himself with an established physician or group of physicians. These well-established physicians are not always ready to share their practice and influence with the younger men and as a rule they are not located in the smaller communities. If you wish to have rural and small town physicians be what you desire them to be, they must have places in which to do their work. The answer to all these requirements is the Community Hospital. To my mind, without a doubt, there is a definite field for the small Community Hospital. I admit there are obstacles in the path of its establishment and operation. First, the building and necessary modern equipment. This is a real problem, but the public recognizes the situation and, if properly approached, can be induced to carry a considerable part of this initial outlay. It is far easier to get donations to establish, build and equip hospials than it is to get financial aid to operate one. The real burden on the hospital is not the regular cost of operation or the necessary expense but the care of people who cannot pay and those who will not pay. This brings me down to the greatest argument in favor of the Community Hospital. To me, it is absolutely unjust to add to the hospital expense of the provident patient a certain percentage to take care of his improvident neighbor. If the poor must have help, let the burden fall on the people as a whole. Heretofore, it has fallen directly on the physician or physicians sponsoring the small community institution.

It has been said that we have three classes of people; the rich, the poor and those who still have their tonsils. The ones who still have their tonsils, I presume, are the people of moderate means. These, and the poorer classes are the ones that are giving the small town hospital the most concern. I do not know the origin of this Community Hospital idea, but I suspect it was an evolutionary result of those same forces that caused the first hospital to be created, being a natural consequence of the increasing need for, and appreciation of hospital facilities. It is not fair to credit the founder of the small hospital with less public spirit or good faith than is claimed for those who build greater institutions, serving larger clintele. I prefer to believe that the small town hospitals exist as a merciful attempt to satisfy a widespread and insisent human demand, rather than as a commercial venture, for it is axiomatic that very few properly run hospitals, large or small, make money, and that the same amount of thought, energy and care necessary to successful hospital administration will bring far greater financial returns in any other sphere of human endeavor, except perhaps in the affairs of the church. There is a desperate need for these small refuges in a sea of trouble. I am convinced that during the last few years, I have seen numbers of patients who would certainly have died had it not been for one such hospital. Some of these were cases in which the time element was of vital importance; others, deeply prejudiced, were only moved to action by a personal acquaintance with the hospital, the Doctors who worked therein, and a conviction of impending personal death. Useless of talking of sending these people here or there. In the majority of cases had they been willing to go, there were no funds available for transportation. They simply could not be sent, for they stoutly maintained, even with their lives, that they would rather bear the ills they had, than fly to others they knew not of. Not all of these so stricken escaped with their lives, but each brand plucked from the fire was a distinct achievement. That the demand for Community Hospitals is national is abundantly evidenced by the great number of them that have sprung up throughout the land in recent years. It is not probable that this growth would have taken place unless these institutions did perform some necessary function, regardless of the fact that the majority of them were running at a deficit and this deficit was experienced in normal times. In Mississippi, we have approximately 50 of these smaller institutions that are anxious to handle the charity cases of their respective territories. In every one of them the financial problem is considerable. The income from purely hospital facilities is rarely sufficient to meet its needs. The patient of moderate means and the charity patient are ever present problems to be solved in various ways.

In Community Hospitals, three are four groups of people vitally interested: the Board of Trustees, the Hospital Staff, the Patients, and the Community served by the hospital. Each of these groups sees the hospital from a different angle. Each group must give its whole-hearted and unselfish support, and must do its part towards building up a good hospital. The Board of Trustees or Governing Board is usually made up of public spirited men picked from the leaders of the community, who serve from a sense of public duty. This Board is often greatly handicapped as to funds and as a result it has to trim expenses even to the extent sometimes of limiting the efficiency of the institution. Would this curtailing of necessary expenses be mandatory if some provision could be made for the handling of the two classes of patients, the ones we are most concerned with, the patient of moderate means and the charity patient? The former may be handled by making the conditions under which he may be admitted to the hospital more attractive. I mean, by establishing more uniform moderate rates per day for hospitilization and professional services. If your Community Hospital is not running at a great deficit because of charity work handled, this can be done. If the Community Hospital is handling a great amount of charity work without adequate compensation, necessarily must its rates per day be higher and consequently out of reach of the man of moderate means.

In the United States, there are eight state charity hospitals. Mississippi operates over half of these institutions, or to be exact, our state maintaines five charity hospitals for the care of physically sick. Two other charity hospitals are owned by Louisiana and one by Rhode Island. These Mississippi charity hospitals have been in operation over a period of years and it is not my intention to belittle the work they have done. Living in the northern part of the state, far removed from these hospitals, I have never seen the work accomplished by them, in fact, it has rarely been my good fortune to get a patient in to one of them. Overcrowding, inadequate state appropriation for these five hospitals have been the excuses there for. In 1931 the state appropriation for these hospitals was $251,385.00. That same year there was absolutely no appropriation for the privately owned or community hospital. Did the charity work in the small local hospital stop because of this non-appropriation? A survey of the records of these hospitals in 1931 will show that the work of caring for the indigent sick went on without interruption. These five state-operated hospitals, as we all know, are located in the counties of Adams, Hinds, Jones, Lauderdale and Warren. Of course, it is only the natural course of events that the majority of patients treated in these institutions would come from the counties in which they are located. An examination, however, of the records compiled from these hospitals reveals the fact that 31.6 per cent, $16,022.29 of the $50,635.00 appropriation in 1931 for the Jackson hospital went to take care of patients from Hinds county. In other words, nearly one-third of the whole appropriation was spent to care for Hinds county citizens. In the Natchez hospital OVER one-third of its appropriation, $16,444.18 of the $41,500 was used to take care of Adams county citizens. In Vicksburg 56 per cent, $23,484.83 went to care for Warren county people. Similar amounts were paid out at the Meridian and Laurel institutions. In short, an average shows that 41 per cent, nearly half, or $101,658.59 of the State's appropriation of $251,385 in 1931 went to caring for the citizens of Adams, Hinds, Jones, Lauderdale and Warren counties.

The State does not own the hospitals at Vicksburg and Natchez, but it does own the other three. Even at a valuation of $150,000 apiece, $450,000 for these three hospitals and their equipment, the interest on this investment, a 6 per cent, would amount to $27,000 annually over a long period of years. This interest alone would take care of the charity in a number of counties throughout the state. A little more than that amount, $32,426 did take care of, very nicely, in 1932, 1034 patients in approximately 30 counties. I refer to the State aid of $32,426.93 expended by the State for the care of charity cases treated locally in Community and Small Privately owned hospitals. The average cost per patient for the State owned Charity hospitals in 1931 was $1.95 per day. All praise, where praise is due. That is a wonderfully low price per day. In my opinion, such a cost per day is impossible if the patient gets the real service that he should get. I am sure the cost is too low if the patient receives the same necessary treatment that is accorded him in the charity ward of the small community hospital. This $1.95 per day cost can probably be explained by the fact that it is very doubtful if half the patients received, spent as much as 24 hours in the hospital.

I am of the opinion, and rightly so, I think, that if the State is to take care of its indigent sick by means of State owned and operated hospitals, far removed from at least half of its population, it should provide some means of transferring the patient from his home to the hospital. I refer to the expense of transporting the charity case to the far distant State owned hospital. In practically all such cases a hundred miles away, even were it possible to secure permission for entrance, it would not be possible, without local contributions to secure railroad fare for the patient. Also, as a rule, if a person is sick enough to enter a hospital, he is certainly too sick to get on a train, or in a car, and ride 100 to 150 miles alone. The need of an attendant calls for an equal extra expense. These items of expense for a distance of 100 miles will amount to from six to eight dollars. This amount should be borne by the State. In the case of the indigent mentally sick patient, the expense of transportation, with an attendant, is borne by the county. If the five hospitals, taking 1931 as an average year, treated 8914 patients from the counties of Adams, Hinds, Jones, Lauderdale and Warren, the counties they are located in, certainly if there are no other charity wards utilized over the state, they should treat equally that number from the other 77 counties. The transporting of eight or nine thousand patients, the majority of them needing an attendant, ever over a distance of 50 miles would mean a considerable outlay of money. With the present arrangement, this amount would not be borne by the State, but would have to be secured by local subscriptions, among our State's citizens. Undoubtedly the burden is too great locally on the communities far removed from these hospitals.

Taking into consideration interest on the investment in building and equipping these state-owned institutions, the expense of transporting to these hospitals, borne locally by communities from which they come, I am fully convinced that it would be much cheaper, in the end for each county to care for its charity at home by means of the Community hospital. At least talk to a prospective patient about it. You simply can't send them in the majority of cases. Their argumens are many, the expense of travel, the time element, being away from their familis and last but not least, they tell you that they will not get the personal attention they get at the nearby County or Community hospital.

The Community Hospital will develop a Medical Center in each county, or in each two or three counties. The Charity Hospitals already located could continue to function locally, and could very well take care of a few more counties, not as a state proposition, but as a county, or several county, project, getting State aid up to a certain amount, according to the amount of work they perform. The fifteen cent per capita per county idea is the logical solution. At fifteen cents per capita a county of 30,000 under this plan would expect a maximum of $4,500.00 with which it could very nicely take care of all its indigent sick. The total State appropriation under a plan of this kind would run approximately $300,000.00. The appropriation of around $300,000.00 for the two years 1932-33 etc. $150.00 per year, is not quite enough. This was the depression appropriation, but even so this amount if more equally distributed over the state would largely take care of the charity needs for sickness and injury. In addition to the regular biennial appropriation for these five hospitals, it becomes necessary every few years to make extra appropriations for new equipment, etc. These extra appropriations, in the past, have amounted to around $25,000.00 per hospital. They are not counted in the regular running expenses, are made rather frequently, and it is suspected that one will be forthcoming at the next session of the legislature, if the state operated charity hospital continues to function. No such extra expense is met, with the state caring for its indigent sick by means of the Community Hospital. As the matter stands, a statement showing the total cost of treating charity patients originating in the five counties where charity hospitals are located, discloses the fact that this contribution by the State as far as the present charity hospitals are concerned, is largely a local proposition. As stated before it is 41 per cent local.

I am of the opinion that we can learn to handle patients cheaper than we have. The average cost per day in the privately owned or Community Hospital in 1932 was $3.54. This is quite in keeping with the average patient cost per day for State aid hospitals over the entire United States. I believe, however, with more experience in handling these cases, that it will be possible to reduce this average cost at last to $3.00. I am anxious that this be done, as are the Doctors who are closely associated with the Mississippi Hospital Association. I am not in favor, however, of reducing per capita cost per day with a sacrifice to the patients' welfare and comfort.

Chief among the points stressed in the report of the Hospital Committee of the American Medical Editors Association was the observation that the "Open Community Hospital, in which every member of the professoin, every Dentist, every Pharmacists, every Nurse, and every public-spirited layman and citizen has a part, is the solution to modern medicine in the country." We may justly expect the Community Hospital to be the means of establishing small Medical centers, thereby inducing the young ambitious men to locate in the smaller communities. It will furnish the foundation for and the means of co-operative medicine. It will aid each physician to more perfect himself and do better work. His work can be correlated, allowing him to do more, with less cost to his patient. It will act as a stimulus to the rural Doctor. Modern equipment will make diagnosis more accurate for him. Its worth can not be estimated in dollars and cents, its possibilities cannot be fully visualized. We hear of State Medicine, Medical Insurance, and a host of other things that our profession may be drifting to. This has been brought about by the desire for and the necessity of furnishing better medicine and surgery to the masses at a price compatible with their means. Regardless of what may be said or written the answer is The Community Hospital.

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Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION
Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

LILLIE McKEE VAN ALSTINE

Lillie McKee Van Alstine was born near Lebanon, Missouri. She was educated in Missouri and Oklahoma and taught in the public schools of both states.

In 1918 she was married to Dr. F. L. Van Alstine at Garvin, Oklahoma, where they continued to reside for two years. They moved to New Orleans in 1920 and came to Jackson, Mississippi in 1926.

Mrs. Van Alstine has always been active in Church and Church School work; serving as District Superintendent of the Adolescent age group of her Church in the New Orleans district and the Jackson district, and assisting in the Conferesce work of the Louisiana and Mississippi Conferences, as well as the work in her local Church.

She has served as President of the Jackson Auxiliary to Central Medical Society and Recording Secretary of the State Medical Auxiliary for the year 1931-1932, being elected President-Elect in 1932 and entering upon her duties as President of the Auxiliary to the Mississippi State Medical Association May 11, 1933.

HONOR MRS. McGLOTHLAN

Mrs. A. B. McGlothlan of St. Joseph, Mo., immediate past president of the Woman's Auxiliary to the American Medical Association, who was the week-end guest of Mrs. Daniel J. Williams, East Beach, Long Beach, was honored with a tea and reception Sunday afternoon at the Williams home with Mrs. Williams, Dr. Emma Gay and Mrs. E. C. Parker as hostesses. The reception suite was turned into a flower bower with a profusion of white and pink rambler roses, Confederate jasamine, cape jasamine and gladiolus, Mrs. C. A. McDaris directing the decoration. In the receiving line were Mrs. Williams, Mrs. McGlothlan, Mrs. George Melvin, president of the Medical Auxiliary, and Mrs. L. L. Polk of Purvis, former state president of the Medical Auxiliary. For the afternoon the honor guest wore a gown of blue and tan flowered chiffon and her corsage was of blue flowers. Dr. Emma Gay greeted the guests on arrival. Mrs. E. C. Parker received in the dining room and was assisted by Miss Florence Cassibry. The tea table was covered with a white lace and blue larkspur completed the effect. About sixty guests including doctors and their wives from along the Coast called during the afternoon.—Daily Herald, May 16, 1933.

OFFICERS FOR 1933-34

President-Elect	Mrs. Henry Boswell, Sanatorium
President	Mrs. F. L. Van Alstine, Jackson
1st Vice-President	Mrs. W. C. Pool, Cary
2nd Vice-President	Mrs. J. M. Acker, Aberdeen
3rd Vice-President	Mrs. L. S. Lippincott, Vicksburg
4th Vice-President	Mrs. C. E. Mullins, Bude
Rec. Secty.	Mrs. A. G. Wilde, Jackson
Treasurer	Mrs. E. C. Parker, Gulfport
Historian	Mrs. J. W. D. Dicks, Natchez
Parliamentarian	Mrs. D. J. Williams, Gulfport

When Dr. W. H. Anderson, the enterprising and ambitious editor and manager of this peppy and highly instructive magazine, asked me to take over, for a time, a department devoted to the Woman's Auxiliary to the Mississippi State Medical Association, I was, to say the least, stumped for an answer. I was delighted he wanted a page but felt he had spoken to the wrong Mrs. Williams, when by chance we met in the lobby of the Robt. E. Lee. However, with the co-operation of our new presidents, Dr. J. W. D. Dicks of the State Medical Association, and Mrs. Franklin Van Alstine of the Auxiliary and the other officers, I shall attempt to keep before our readers our aims and achievements.

The Auxiliary deeply appreciates this privilege extended by Dr. Anderson and his worthy associates.

To the outgoing president of the State Medical Association ,Dr. Acker, I offer the plaudits of the Auxiliary. He has been one hundred per cent helpful and co-operative and his timely paper giving us first hand insight to the Charity Hospitals of the State was a master piece and here's hopin' it has sown seed on fertile ground. We are indeed proud of him and to the incoming prsident Dr. Dicks, we salute you, too, as a friend and feel that the dignity and honor of your office will be enhanced.

The State meeting of the Auxiliary was signally honored in having as their guest Mrs. A. B. Glothlan immediate past president of the Woman's Auxiliary to the A. M. A. Mrs. McGlothlan was very much pleased with reports of the various local auxiliaries and with the work as outlined for the coming year. Her talk on Wednesday morning was indeed instructive and her pleasing personality seemed to reach out to all those listening.

She was most complimentory, speaking privately, of the friendly atmosphere and evidence of love and friendship that permeates the membership.

The members privileged to hear our Dr. G. S. Bryan as he gave his delightful talk on friends and friendship, will carry for some time to come many helpful gleams. We felt we were listening to one whose friendship is almost holy and as we carry the kindly face and sympathetic voice that only such as he has, I have no doubt but that his message will ring throughout the coming year.

OUR PREVENTORIUM FUND

At the recent meeting in Jackson it was the unanimous opinion that the Auxiliary carry on the work of providing funds for our Preventorium, and are entering the fourth year. Mrs. Henry Boswell gave a most comprehensive talk setting forth the objects of a Preventorium and manner by which Health Education is taught the kiddies, and of its value as they return to their homes. She told of the hundreds of little things the children were enjoying daily which could not have been provided had not the Auxiliary supplied funds. We have collected to date nearly fiv hundred dollars. Of this you will hear from time to time.

Mississippi State Hospital Association

The fourth annual meeting of the Mississippi State Hospital Association was held at the Edwards Hotel, Jackson, Miss., May 8.

A program of general interest to the hospitals of the State was carried out during the day. Distinguished visitors included Dr. J. M. Acker, Jr., President of the Mississippi State Medical Association; Dr. Bert W. Caldwell, Chicago, Executive Secretary of the American Hospital Association; Rt. Rev. Monsignor J. P. Fisher, Little Rock, Arkansas, President of the Arkansas State Hospital Association; Father Gregory H. Keller, Pine Bluff, Arkansas, and Dr. V. P. MacLean, New Orleans, President-Elect of the Louisiana State Hospital Association, and Mrs. MacLean.

The Association went on record as favoring legislative action for state aid to the indigent sick in voluntary hospitals as recommended by the committee of the Mississippi State Medical Association on Community Hospital Legislation.

To foster closer relations, the Mississippi State Nurses Association was invited to exchange official representatives at the meetings of the two association.

It was voted to invite the State Hospital Associations of Alabama, Arkansas, Kentucky, Louisiana, and Tennessee to meet with the Mississippi State Hospital Association in joint session at Natchez in 1934.

Officers for the year 1933-34 were elected as follows: President, Dr. R. J. Field, Field Memorial Hospital, Centreville; Vice-President, Dr. V. B. Philpot, Houston Hospital, Houston; Secretary-Treasurer, Dr.

Leon S. Lippincott, Vicksburg Sanitarium, Vicksburg; Board of Directors, Dr. R. J. Field; Dr. V. B. Philpot; Dr. Leon S. Lippincott; Dr. J. Gould Gardner, Columbia Clinic Hospital, Columbia; Mr. G. D. Stanley, King's Daughters' Hospital, Greenville.

The Secretary's report showed 48 institutional active members and seven personal active members. The registration was the largest in the history of the Association, being 124.

At the annual banquet in the evening, Dr. J. Gould Gardner, Columbia, President, presided as toastmaster. The principal address was made by Dr. Bert W. Caldwell. Other speakers included Dr. W. A. Evans, Chicago, introduced by Dr. F. J. Underwood, Jackson and Lieutenant Governor Dennis Murphree, introduced by V. B. Philpot. Dr. J. M. Acker, Jr., introduced the new president, Dr. R. J. Field.

The next meeting of the Association will be held in Natchez, Mississippi, on May 7, 1934, in conjunction with the meeting of the Mississippi State Medical Assocation.

Ole Miss Medical News

By Woodard D. Beacham

Dr. P. L. Mull, Dean, is very optimistic. He believes that Governor Conner with the aid of the State Legislature will save the Medical School.

When Dr. Mull went to Chicago in February, 1931, accompanied by Drs. Culley and Guyton, of Oxford, and Martin V. B. Miller, of Meridian, Sennett Conner was then a candidate for Governor of Mississippi. Not only did Mr. Conner send a telegram to the Council on Medical Education and Hospitals at that time; but, when Dean Mull and Dr. Culley appeared before the Council at the meeting in New Orleans in May, 1932, they presented a telgram from Governor Conner assuring the Council that the Board of Trustees was making every effort possible to do everything necessary to place the Medical School at the University in a position to receive the complete approval of the accrediting associations, and asking for an extension of probation to give the Board of Trustees time to meet the requirements of the Council. These telegrams are now matters of record and are on file at the headquarters of the American Medical Association, at 5535 N. Dearborn St., Chicago, Ill.

In the meantime Governor Conner has won the confidence and admiration of good people everywhere. The honors conferred upon him by other states from coast-to-coast bear witness to this statement. The Council on Medical Education and Hospitals will be glad to confer with Governor Conner. It granted the request of the Governor in May, 1932, and allowed the Medical School to be continued on probation for the year 1932-33. Now it is ready to help him save Mississippi's only Medical School.

The faculty and students of the Ole Miss Medical School have implicit faith in Governor Conner, the Central Board of Trustees of Higher Learning, and the State Legislature, and believe that they will be successful in saving the Medical School.

At the meeting of the Central Board of Trustees of the Institutions of Higher Learning held in Jackson, April 4th, the committee under the chairmanship of Chancellor Alfred Hume, of the University, advised the Board of Trustees that a two-year medical school has been and is necessary for the educational welfare of the State of Mississippi. Acting upon this recommendation, the Board of Trustees appointed a committee consisting of Hon. J. H. Currie, Meridian; Hon. N. E. Wilroy, Hernando; and Governor Conner—all graduates of the University. This committee is to poll the members of the State Legislature in order to get an emergency appropriation to continue the Medical School.

It is imperative that each and every member of the medical profession of the State do everything that he can to see to it that the School is continued. Each Doctor should see his Representative and Senator and urge them to co-operate with the Governor and Board of Trustees by supporting an emergency appropriation for the School. The service of the Ole Miss Medical School cannot be measured in terms of dollars; therefore, let every man resolve that it shall not die because of the lack of funds. If Mississippi can educate her lawyers, teachers, business men, and engineers—then it seems only fair that she Help educate her physicians and surgeons!

Dr. Henry Garland Hill, Orthopedic Surgeon, of Memphis, Tenn., addressed the student body of the Medical School on the subject of "Fractures" Thursday night, April 13th.

Dr. Hill delivered an illustrated lecture, using the motion picture machine to explain in detail various conditions and procedures. His lecture was thoroughly enjoyed. He came to Ole Miss as the result of an invitation extended to him by Dr. B. S. Guyton, professor of minor surgery.

Dr. Morton J. Tendler, Surgeon of Memphis, spoke to the medical students on "Injuries of the Hand" April 21st. His discourse was quite interesting and he, too, used motion pictures. He was invited to Ole Miss by the professor of minor surgery.

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Dr. A. B. Dancy Dies Suddenly

JACKSON, Tenn., June 10.—Dr. Alexander Brown Dancy, 55, president of Mid-south Post Graduate Medical Assembly, bank director, and widely known opthalmologist and otehologist died suddenly at his home here at 10:15 o'clock this morning.

Dr. Dancy dropped dead of a heart attack as he entered the bathroom. Mrs. Dancy rushed in the room on hearing his body hit the tile floor but he died without speaking a word.

Dr. Dancy, possibly the most outstanding medical authority in this territory, was born at Holly Springs, Miss., the son of Colonel Clifton and Sarah Brown Dancy. His father commanded a regiment in the Confederate army and was present on the death of General Albert Sidney Johnston at Shiloh.

He was a resident at Southwestern Baptist University, now Union, from 1894 to 1896 and recevied M.D. degrees from the University of Louisville, 1900, and Vanderbilt, 1902. The following year was spent as an interne at New York Polyclinic and he was later awarded a certificate by New York Opthalmic and Aural Institute.

DR. A. B. DANCY

In 1903, Dr. Dancy studied abroad, receiving honors from Royal London Opthalmic Hospital. He made an investigation of the larger hospitals in Germany and France while across.

A special certificate was awarded him by the American board, Opthalmic Examination, in 1916, and also by American board of otolaryngology. In 1917, he took an advance course in opthalmology at Harvard.

One of the few selected as fellows of the American Academy of Opthalmology and Otalaryngology, Dr. Dancy was held in high esteem by members of his profession. He was a member of the medical advisory board at Jackson during the World War. He was a consulting eye, ear, nose and throat specialist for the U. S. Veterans' Bureau at Jackson.

A past president of West Tennessee Medical Association, Dr. Dancy belonged to American Medical Association, Tennessee State Medical Association Madison County Medical Association, and at the time of his death was consulting opthalmologist for the Mobile & Ohio Railroad at Jackson and counsellor from the Eighth District, Tennessee State Medical Association.

Dr. Dancy was a trustee of First Methodist Church, director of Second National Bank, and Elk, past president of Jackson Rotary and Y. M. C. A., surgeon for American Legion boxing committee, a Boy Scout enthusiast, Kappa Alpha and Phi Chi.

He was married June 6, 1911, to Miss Mary Eloise Happel of Trenton.

His grandfather, Judge Milton Brown, was responsible for the building of Mobile & Ohio Railroad and made the speech in Congress which resulted in the admittance of Texas to the Union.

Besides his widow and mother, a daughter, Mary Happel Dancy, 18, and son, Alexander Brown Dancy, Jr., 13, and brother, Clifton Dancy, all of Jackson, survive.—Commercial Appeal.

The West Tennessee Medical and Surgical Association

The West Tennessee Medical and Surgical Association held its forty-second annual session at Shiloh Park on May 25, 26, 1933. This meeting was well attended and the following program was carried out, with Dr. J. O. Baird, presiding:

THURSDAY MORNING—MAY 25

Cystoscopic Conditions of the Kidney by Dr. Maury McRae, Corinth, Miss.

Urinary Infections in Childhood by Dr. Hubert, K. Turley, Memphis. Joint discussion: Dr. Henry Douglass, Nashville.

The Treatment of Anemia by Dr. Conley H. Stanford, Memphis. To discuss: Dr. Swan Burrus, Jackson.

Obstetrical Analgesia by Dr. Sidney Meeker, Memphis. To discuss: Dr. Roy A. Douglass, Huntingdon.

Menopausal Hemorrhage, by Dr. John C. Burch, Nashville. To discuss: Dr. Will T. Black, Memphis.

THURSDAY AFTERNOON—1:30

The Treatment of Common Heart Disorders, by Dr. Lyle Motley, Memphis.

The Problem of Heart Diseases, by Dr. Otis Warr, Memphis. Joint discussion: Dr. Williamson, Jackson.

Radium Therapy in the Treatment of Uterine Hemorrhage of Benign Origin, by Dr. Preston Kennedy, Greenwood, Miss.

Remarks on Growth and Development of Radiation, by Dr. W. S. Lawrence, Memphis. Joint discussion: Dr. Shields Abernathy, Memphis.

Headache, Indigestion and Other Constitutional Symptoms due to Allergy, by Dr. John P. Henry, Memphis. To discuss: Dr. J. B. Hibbitts, Jr., Nashville.

Preoperative and Postoperative Treatment in Abdominal Surgery, by Richard A. Barr, Nashville.

To discuss: Dr. E. H. Baird, Dyersburg.

EVENING SESSION

The President's Address.

Early Diagnosis of Cancer of the Colon and Rectum: Surgical Relief, by Drs. W. D. Haggard and C. R. Crutchfield, Nashville. To discuss: Dr. R. L. Sanders, Memphis.

Fractures, by Dr. Henry G. Hill, Memphis. To discuss: Dr. J. P. Baird, Dyersburg.

FRIDAY MORNING—9:30

The Acute Abdomen, by Dr. W. H. Anderson, Booneville, Miss.

Acute Appendicitis, by Dr. R. B. White, Jackson. Joint Discussion: Dr. Brandon, Martin.

Modern Conceptions on Pellagra, by Drs. S. T. Rucker and E. R. Clardy, Memphis. To discuss: Dr. J. B. McElroy, Memphis.

Cancer of the Larynx, by Dr. W. Likely Simpson, Memphis. To Discuss: Dr. A. B. Dancey, Jackson.

Sudden Death Comes to Dr. R. E. Flack

Dr. Roswell E. Flack, prominent tuberculosis specialist, died yesterday morning at his home, 1631 Peabody, following an apoplectic stroke at 2 o'clock in the morning. A cerebral hemorrhage was the immediate cause of death. He was 53 years of age.

Dr. Flack came to Memphis seven years ago and attained a wide practice in the Mid-South. He was born at Gilkey, N. C., on a plantation which his ancestors held as a grant from the English throne before the revolution. He was educated at Wake Forest College, and taught pathology there for a time, then entered Johns Hopkins University. Upon graduation he entered practice at Spray, N. C., and then was for some years on the staff of Winyah Sanitarium, near Asheville. He was in practice at Asheville, a center for tuberculosis cure for 25 years.

He was a member of Phi Chi medical fraternity and various medical societies. He was regarded as a keen specialist in his field and had written many scientifc papers on tuberculosis.

He was a classmate at Wake Forest of the Rev. R. J. Bateman, pastor of First Baptist Church here, and was a member of the church. He was also a member of the Memphis Rotary Club.

He leaves his wife, Mrs. Mary Marshall Flack; four children, Dorothy and Billy Flack of Memphis; Roswell E. Flack, Jr., who is in the navy, and Robert Flack, Rutherfordton, N. C., and the following brothers and sisters, Dr. Horace Flack, Baltimore; Zeno Flack, Gilkey; Mrs. Bratton Hughes and Mrs. P. J. Fletcher, Hendersonville, N. C.; and Mrs. Charles Justice, Gilkey.

Funeral services, conducted by Dr. Bateman, were held last night at the Cole-Wilson Funeral Home and the body was sent to Gilkey for burial.

Letters to the Editor

Cash, Arkansas
April 24, 1933

Dr. W. H. Anderson
Booneville, Miss.
Dear Doctor:

I see in April issue of your valuable journal a poem "This Man Really Knows," from Dr. E. M. Holder. I also see you ask for any important social or economical question of human interest.

I think as Elbert Hubbard said, "A boy is a man in the cocoon—you do not know what he is going to be come—his life is big with many possibilities. Yesterday I rode horseback past a field where a boy was plowing. The lad's hair stuck out through the top of his hat; his form was bony and awkward; one suspender held his trousers in place; his bare legs and arms were brown and sunburned and briar-scarred. He swung his horses around just as I passed by, and from under the flapping brim of his hat he cast a quick glance out of dark, half-bashful eyes and modestly returned my salute. His back turned, I took off my hat and sent a God-bless you down the furrow after him. Who knows? I may go to that boy to borrow money yet, or to hear him preach, or to beg him to defend me in a lawsuit; or he may stand with pulse unhastened, bare of arm, with white apron, ready to do his duty, while the cone is placed over my face, and Night and Death come creeping into my veins."

In this depression I think we need "JOY" and I know of no better medium to scatter it than through a boy.

So am sending this.

A MIGRANT MELODY

There came from an alley and into the street
The haunting refrain of a melody sweet;
Awhistling street-urchin had carried it down
From his gallery throne to a turbulent town.
The song had a thrill in its every note;
It sweetened the lips and it gladdened the throat;
It danced on its way from the happy boy's heart
To Sicily Joe of the strawberry-cart.
Joe gathered it up with a welcoming zeal
And shared it with Tim at the taxicab's wheel;
Tim carried it on till he came to a stop,
Then whistled the tune for a boulevard cop.
The boulevard cop found the turnkey alone
And sang him the melody over the phone;
The turnkey, good fellow, in whose heart yet dwells
God's pity, soon sent it down to the cells.
The prisoners took cheer in the melody sweet
And out through the bars it went back to the street;
The boy who had first sent the song on its way
Said: "Funny, that's twice I have heard that today."
And soon, while the song again played on his lips,
He met some sea-faring men bound for their ships;
He gave it to them, and they carried it on—
Well, nobody knows just how far it has gone.
Which all goes to prove that when God would spread
joy,
He finds he can always depend on a boy!

—WILLIAM HERSCHELL.

Yours most sincerely,
J. H. McCURRY.

HENRY G. RUDNER, M.D.
Clinic—Internal Medicine
1108 Madison Avenue Memphis, Tenn.

THE WALLACE SANITARIUM

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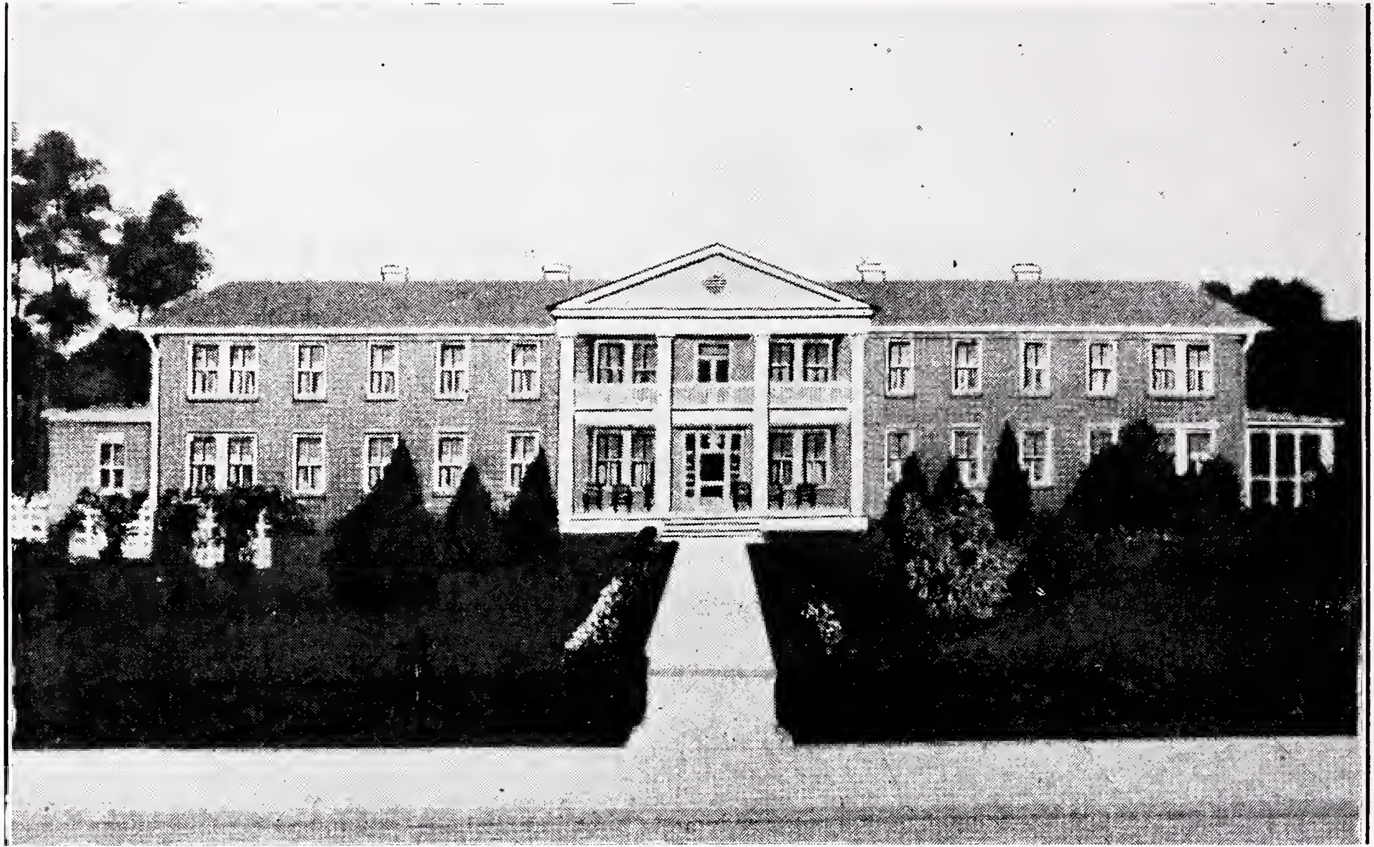

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Neuro-Syphilis and Convalescents

Buildings new, thoroughly modern and of fire-proof construction. Standards high. Clinical laboratory complete, including basal metabolism equipment. Methods Thorough. Staff of well trained physicians, all members of A. M. A. Sanitarium located only one hour and a half from New Orleans in center of ozone belt. Highest references. Write.

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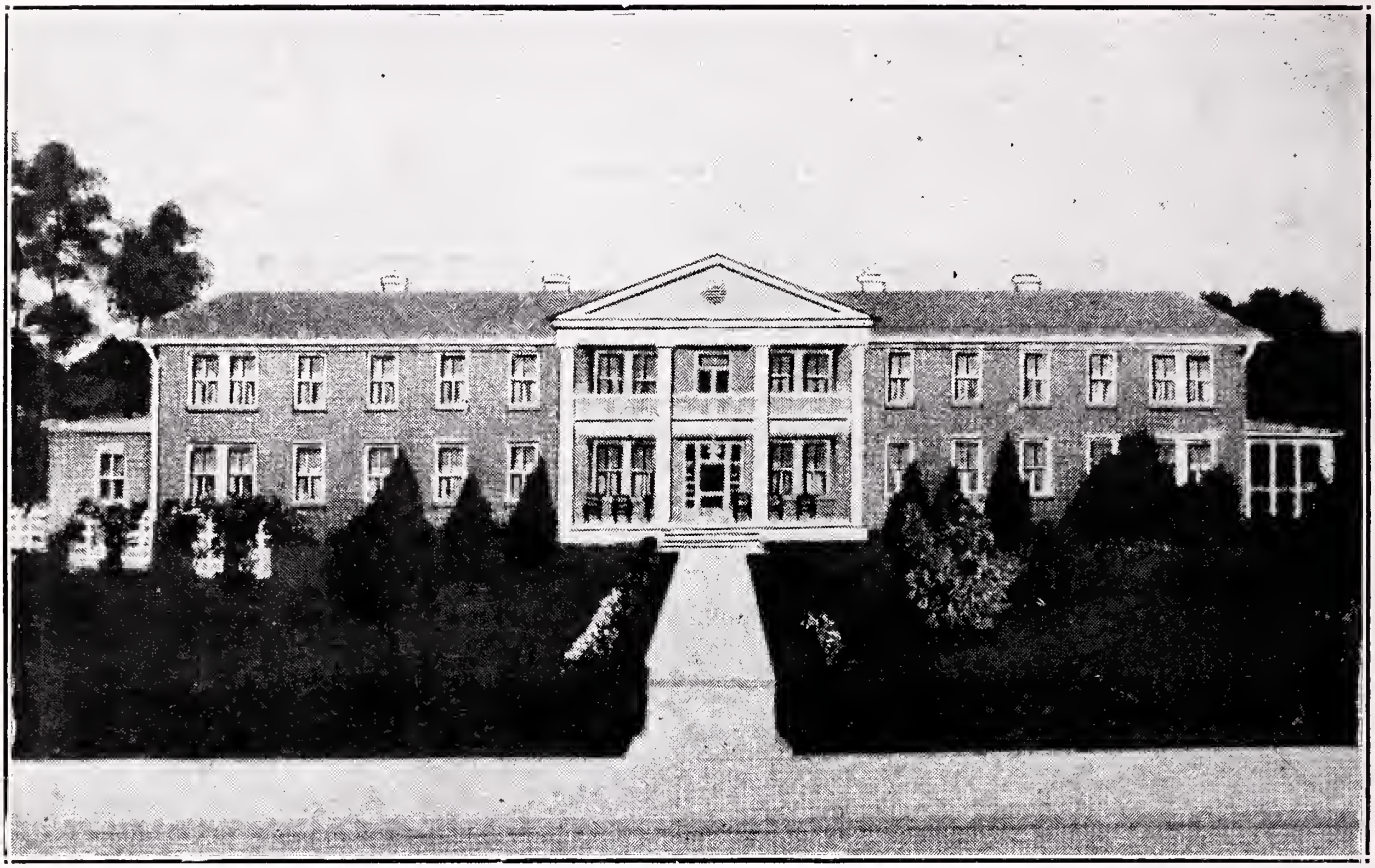

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THE MISSISSIPPI DOCTOR

VOL. 11. BOONEVILLE, MISSISSIPPI, AUGUST, 1933 NO. 3

THE N.Y. ACADEMY
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INVICTUS

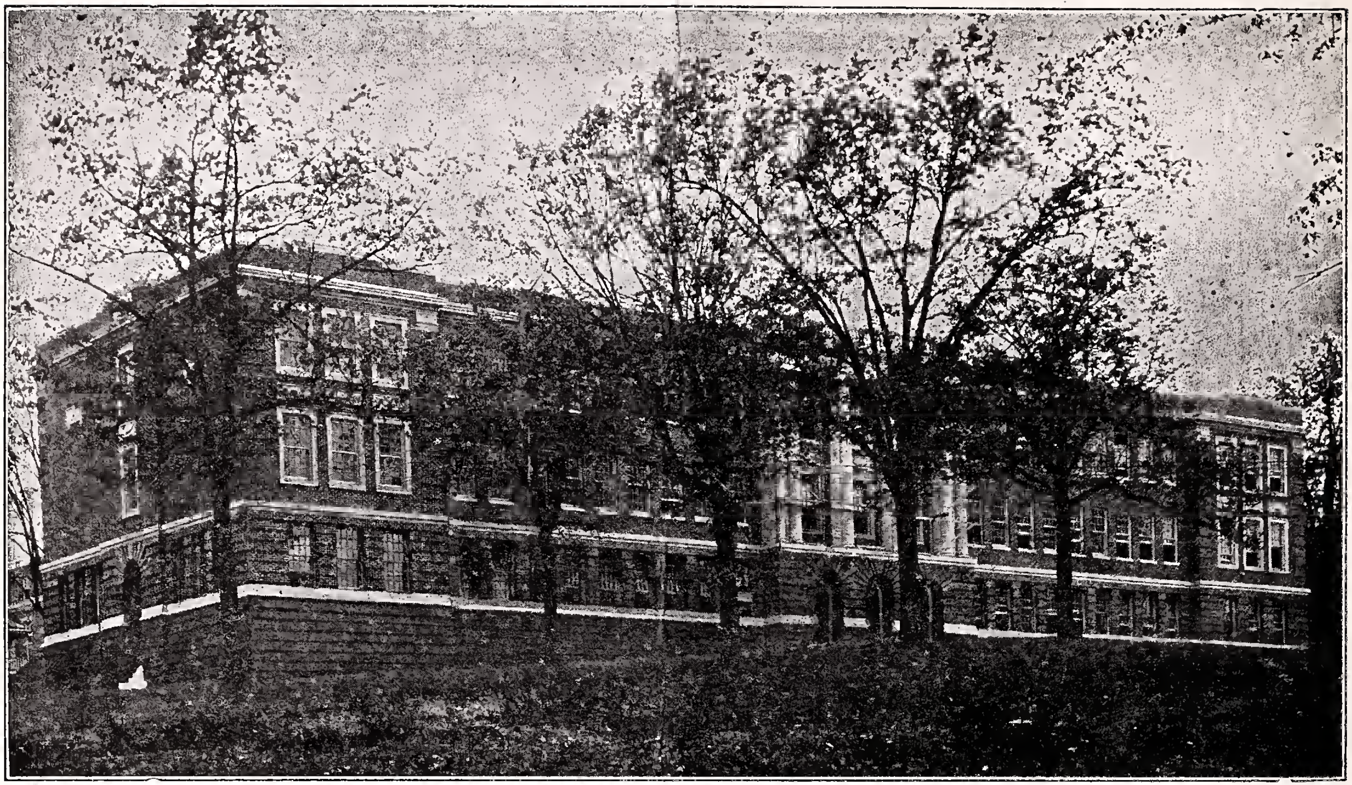
"Out of the night that covers me,
Black as the pit from pole to pole,
I thank whatever gods may be
For my unconquerable soul.

In the fell clutch of circumstance
I have not winced nor cried aloud,
Under the bludgeonings of chance
My head is bloody, but unbowed.

Beyond this place of wrath and tears,
Looms but the Horror of the shade,
And yet the menace of the years
Finds and shall find me unafraid.

It matters not how strait the gate,
How charged with punishments the scroll,
I am the master of my fate:
I am the captain of my soul."

—WILLIAM ERNEST HENLEY.



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LAWRENCE T. LOWREY, PRESIDENT

THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN OF THE NORTHEAST MISSISSIPPI 13-COUNTY MEDICAL SOCIETY

—AND—

NORTH MISSISSIPPI MEDICAL SOCIETY

—AND—

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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The practitioner of the future must be an educator.

We appreciate the professional cards. We want fifty more.

Send us some news, give us an idea, page Arkansas for a hundred new subscribers.

When we have conquered malaria the medical profession shall have just cause to rejoice.

A good anesthetist in addition to knowing his ether, must have an honest mind and a sympathetic heart if he expects his patient to trust him and relax.

After all the average man dies of the common every day disease that he has seen and known and read about all down the ages.

We appreciate words of commendation from such men as Dr. Seale Harris. He is a corner stone in organized medicine in America.

If a man keeps mentally and physically fit he should be worth more to society every day that he lives although he live to be one hundred years.

There is no one thing common or of small importance in the practice of medicine. All praise to the man who can dignify his work and keep on keeping it up every day in every detail.

We hope you are benefitted by our "malaria" issue of the journal this month, Drs. Evans, McElroy and Acree being the contributors.

It gives us much pleasure to dedicate this issue of The Mississippi Doctor to Dr .W. A. Evans of Chicago, Health Editor of the Chicago Tribune. After all we claim him as ours.

The community hospital is the answer to modern medicine in the small town and rural community at less cost to the individual patient and more profit to the general practitioner.

The Mississippi State Hospital Association is now functioning in fine style. We want the President, Dr. Fields to feel free to use the columns of The Mississippi Doctor freely in promoting its efficiency.

We appreciate the full page ad from the All States Life Insurance Company. This group insurance gives us a fine rate. You help yourself and your fellow in the profession when you take it.

Every man has a choice idea, a unique experience, a different view point that should go to the public. You can say something that will give courage to the heart, the mind and the soul of your fellow practitioner. Let us have this product to pass along through The Mississippi Doctor. This journal is your publication to help solve your problems.

The human organism must be studied the same as the bacteria attacking it, and the individual person as well as the special bacteria.

When a phone wakes a man before it rings it is mental radiology. Each person is a broadcasting station and all a receiving station. And thusly what a man thinks is carried to his neighbors whether he speaks or not.

Really and truly the medical profession is made up of the physician, the dentist, the pharmacist and the doctor. All four of these are really one or should be. A human head doctored against itself can not stand, the mouth is really a part of the human organism, and it must be so treated.

Mrs. Dan Williams, editor of the Auxiliary Department is giving you something very interesting. This department is going to grow better with each issue. This organization is bringing the spice to the practice of medicine.

The Southern Medical Association meets in Richmond, Virginia this fall. It is worth the trip to visit this city. It is a city of historical interest and the medical atmosphere is fine because Horsely and McGuire and others make it so.

An interneship in a big hospital is fine, but another year should be added—the recipient should be placed out in the country with the general practitioner his second year to do a lot of his un-learning before he begins to practice.

We are deeply grateful to Dr. J. B. McElroy for his paper on malaria. The Mississippi Doctor feels honored to have it first. You can follow him safely. He is able in native ability, he is careful and he is thorough. He is an investigator. He is rendering much service to organized medicine. He is under the load to help solve our malaria problem.

Malaria has been one of our major problems in the South for years and years. It is yet. But we are getting closer to the solution. In our human economics the medical profession has a big responsibility in its relation to this disease. The loss of time and the loss in human life are still enormous. We can not expect ideal living conditions to solve this problem, not for years to come, if ever. Our attention must be centered on the human carrier as well as the mosquito. We should be able to control the human better than the mosquito. New medicines are coming in now. Able investigators are going deep into the details of the problem. In this issue of the journal you will get the last word by men whom you can follow and fear no evil.

The Mississippi Doctor regrets very sincerely the going of Dr. J. H. Giles of Ripley. He lived out his three score years and ten and six. He was a member of the Presbyterian church and he belonged to the "old school" of family physicians. As long as he was active in practice he kept well up in general practice. If he lacked any technical facts he overbalanced it with common sense, wisdom and brotherly interest. He was a logical thinker. He possessed much poise. He was clean and up-right in his living. He was not a man of many words, but his life, his deeds and his desires charged the atmosphere and made any community better in which he lived. He dignified the general practice of medicine, His traits of mind, heart and soul will ever be in demand in the medical profession. He was a corner stone in his church and he was the type of citizen that causes a nation to live and be strong.

We are delighted to publish the poem sent to us by Dr. Seale Harris on our front page for the August issue. It is indeed timely. The medical profession has truly been in the fight for the last three or four years. It has done its part and more. The general practitioner has had a burden especially heavy to carry. Generally speaking the bravery and the courage and the fortitude he has manifested has never been surpassed on the battlefield of any nation. He has been overwhelmed with demands for relief. He has been stormed with the shot and shell of poverty and distress. He has been hounded with his own debts while he has had to take even what he had to serve others without hope of monetary reward. His hair is disheveled and his face is bloody from his conflict in trying to deliver relief to a suffering people. Many a practitioner is weak and staggery from the lack of financial nourishment, but you can still see hope and courage in his eye. The medical profession stands at the top in opportunity for service at this time. Let us keep our heads up, faces to the front and go forward with optimism and with courage. The man who can relieve a human pain, and can at the same time impart courage and hope to the down-trodden is of more importance to human society than a general or a millionaire.

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Letters to the Editor

Birmingham, Ala.
July 29, 1933

Dr. W. H. Anderson,
Booneville, Mississippi.

Dear Dr. Anderson:

The "Mississippi Doctor" gets better and better. I know of no state journal that is better edited or that has more practical articles. I read it each month with a great deal of interest. The poems that you have each month on your cover page are always an inspiration. I am enclosing copy of Henley's immortal "Invictus" which occurs to me might be worthy of appearing on your cover page. Henley, an English poet, while waiting to take an anaesthetic to be operated upon by Lord Lister, wrote "Invictus."

I regret to learn of the death of Dr. Howard, and while not a Mississippian I would like to second your nomination to make Dr. Bryan Historian of the Mississippi State Medical Assciation. Dr. Bryan's address to the Woman's Auxiliary of the Mississippi State Medical Association and published in the July number of the Mississippi Doctor is quite the best article on the subject that I have read.

With best wishes, I am

Sincerely yours,

SEALE HARRIS.

Cash, Arkansas
June 20, 1933

Dr. W. H. Anderson,
Booneville, Miss.

Dear Doctor Anderson:

I write to thank you for publishing my letter in the June issue of The Mississippi Doctor.

I don't know you, that is, I never met you personally, but need no introduction other than the obituary or eulogy of "Mother" in the above number of your journal to assure me one could place any sacred, holy or divine obligation with you and never be disappointed or regret the trust imposed.

I also believe that mother knew she had a faithful, true and dutiful son and that the passing was by this knowledge rendered much less painful.

MOTHERHOOD

The bravest battle that was ever fought,
Shall I tell you where and when?
On the maps of the world you will find it not.
T'was fought by the mothers of men.

Like Joaquin Miller, author of the above poem, I think the most valiant soldiers are the mothers. And if I was a ruler of the universe and endowed with the power to benefit humanity, I would direct my efforts to better the conditions and improve the environments of the legitimate motherhood of the world.

I would supply them with every comfort attainable. I would surround them with joys, pleasures and

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delight. I would assiduously strive to gratify their every need.

I would decree and teach that gravid women are sacred, holy and deserving of the highest esteem, sympathy, praise and honor.

As a tribute to this lofty and holy office, to typify this condition and to symbolize this state I would crown them with a wreath that I would fashion not unlike Plenty's horn, emblazoned with this inscription: "Be Benevolent, Considerate and Generous to the most Worthy Being in Existence."

I am fraternally yours,

J. H. McCURRY

NRA and the Hospitals

Dr. Bert W. Caldwell,
Executive Secretary,
American Hospital Association,
18 East Division St.,
Chicago, Illinois.

Dear Doctor Caldwell:

Thank you very much for your letter of July 31st forwarding a bulletin of information relative to the application of the President's Reemployment Agreement to hospitals. This may be a very serious matter for the hospitals of the southern states.

The Mississippi State Hospital Association requests that in preparing a code "under which hospitals may operate without prejudice to their services and without incurring any additional hardships," for submission to General Hammond, that the conditions peculiar to the South be given careful and just consideration.

As you know the voluntary hospitals of Mississippi and generally in the Southern States may in great part be classed as small and rural institutions. In Mississippi of 55 hospitals other than municipal, county, state and federal, there are only two hospitals with 100 beds or over (one has 100 beds and one has 106 beds). Forty-three have 50 beds or less. Estimated as carefully as possible from figures available for the year of 1932 there was an average daily vacancy of hospital beds of 71 per cent.

It is also estimated from figures available that in 1932 not more than 52.1 per cent of patients paid the hospital charges in full; that 23.3 per cent paid in part; that 11.5 per cent admitted as pay patients, paid nothing; that 13.1 per cent were admitted as charity, and of course, paid nothing.

It will readily be seen that with a total bed occupany of only 29 per cent and a severe shortage of collections, the voluntary hospitals of Mississippi had a difficult time. Few, if any, came through without a deficit. Conditions in 1933 have probably been slightly better thus far.

Hospitals as you will realize have to maintain much the same equipment and personnel whether beds are filled or vacant. In addition, following the sentiment for employment of everyone possible, most of our hospitals have kept on employees that could and ordinarily would have been dropped.

It is difficult to see how these hospitals can sign the agreement of the "blanket code" and carry out its provisions in good faith, without some of them at least being forced to close their doors.

One 75 bed hospital has figured that putting into effect the minimum wage of $14.00 per week and the 40 hour week for maids, orderlies, waitresses, laundry helpers and others in this class of workers, would mean a cost of $1,000 per month in addition to what is now being paid. This particular hospital has had a deficit for three years. The "raise your prices" and "keep open shorter hours" that has been told to some other businesses, cannot be applied to the hospitals. While collections may be better as hoped under the new plan, the hospital must be open and ready for any emergency for twenty-four hours each day.

It should be borne in mind that most of the wage earners in the lower level in the South enjoy low living costs. Many of them do not earn $14.00 per week and did not receive that amount even in 1929. It might be that one worker worth $14.00 a week could do the work of two of the others. To discharge two in order to secure one who could earn $14.00 would not increase employment and the two discharged would become objects of charity.

In the temporary code for laundry workers announced from Washington on August 3rd, the wage scales for the South are understood to be: women 14 cents per hour; men over 18 years old, 20 cents; engineers, fireman and maintenance crews, 35 cents; office workers, $12.00 per week. A forty-five hour week is allowed.

The above seems to give hope that if their case and problems are properly presented, the hospitals of the south may expect consideration at the hands of the Division of Reemployment. It is hoped that more than forty-five hours per week will be approved for hospitals.

The American Hospital Association and its Executive Secretary are to be congratulated on the active interest and zeal already shown in behalf of the hospitals of the country. We know that every consideration of the special problems of each part of the country will be given. This letter is written that some of the special problems of the South may be perhaps better understood.

We are anxious to keep our mother hospitals in touch with developments. We look to you for advice and information.

With all good wishes,

Sincerely yours,
(Signed) LEON S. LIPPINCOTT,
Secretary.

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The Comparative Value of Different Forms of Treatment of Malaria

BY J. B. McELROY, B.S.M.D., F.A.C.P.
Memphis, Tenn.

(From the Division of Medicine of The College of Medicine, of the University of Tennessee, Chief Prof. J. B. McElroy)

There have been three outstanding advances in the treatment of malaria in the last decade. In 1924 Roehl developed a technique for the study of malaria in canaries, by which it was possible to assess the chemotherapeutic value of antimalarial remedies. Col. S. P. James has been able by the study of induced malaria by inoculating G. P. I. patients at Horten, England, with mosquitoes infected with various strains of P. Vivax and P. falciparum to dtermine the complete clinical history of these infections and at the same assess the chemotherapeutic value of antimalarial remedies. The chemists and chemo-therapeutists of the Bayer-Meister-Lucius Research Laboratories have discovered important synthetic antimalarial preparations, the most notable of which are plasmochin and atabrine.

According to Kikuth, atabrine is the dihydrochloride of an Alkylanimo-alkyl-animo-acridin derivative, the constitutional formula of which will soon be published. It is a yellowish powder of bitter taste soluble in water. Its pharmacology and toxicology have been investigated. According to the department of research medicine of the Winthrop Chemical Co., Inc., 170 Varick St., New York, it has no influence on cardiac activity; it reduces the temperature of febrile cats; it has no influence on the uterus, small and large intestines of anaesthetized animals. No methaemoglobinaemia or other changes on the blood are observed. "In cats, massive doses given by mouth cause salivation, vomiting and diarrhoea which, however, last for twenty-four hours only. Absorption from the small intestines into the blood stream occurs rapidly, whereas excretion in the urine and bile proceeds slowly. In animals anatomical changes are produced only by large doses, which consist of reversible fatty degeneration of the renal epithelium and liver cells."

Kikuth failing to determine its chemotherapeutic properties by the use of various species of bird malaria, succeeded by the use of Java sparrows infected with proteosoma, in showing that atabrine is a schizontocide, therefore, differing from plasmochin which is essentially a gametocide.

Siolo tested the drug in G. P. I. patients infected with malaria by the inoculation of malarial blood and found that atabrine is a very active therapeutic agent against malaria and has an unusual capacity for preventing relapse. This author recommended .1 grm. three times daily for several days, or single doses of .2 grm., daily dose of .6 grm. He found that larger doses caused gastro-intestinal disturbance. Frequently a yellow color of the skin was noted after the administration of atabrine, but this was temporary and had no ill effect on the health. The pigmentation was due to the drug and was not associated with liver injury.

Peter tested the action of atabrine in a few cases of natural malarial infection in Roumania, controlling carefully the clinical symptoms and blood examination with reference to parasites. Peter concludes that atabrine in a total dose of 1. grm. in benign tertian infections acts on all stages of the benign tertian, in which it first destroyed the rings, then the schizonts and finally the gametocytes. In malignant tertian infections, it rapidly destroys the rings, but is inactive on the crescents; indeed he thinks the latter increase in the peripheral blood. He also noted no untoward effects except the yellow discoloration of the skin.

Muhlens from his experience with 122 cases in Hamburg and several cases which he had the opportunity to observe in Mexico, Venezuela and Colombia comes to the following conclusions:

1. Atabrine is well borne in total doses of 4.8 grms. The yellow discoloration of the skin is not produced by liver injury, but by the acridin pigment, which disappears in two or three weeks at most.

2. Atabrine acts well in all three forms of malaria and better as a schizontocide than as a gametocide, especially in tropical malaria. On account of this, a combination of atabrine with plasmochin is an ideal means of therapy and prophylaxis.

3. Although cases treated for 3-5 days remained free of relapses, he advised .1 grm. atabrine with .01 grm. plasmochin three times daily for 7 to 10 days in the tropics. In the severest cases, he advises in addition quinine intramuscularly for the first two days. He leaves it for the future to decide as to whether subsequent treatment with atabrine would be necessary.

4. Atabrine is well borne by patients with quinine idiosyncracy and by patients predisposed to Blackwater fever.

5. Up to the present time, chinoplasmin (one tablet daily) or plasmochin Co. (2 tablets daily) is to be preferred as a prophylactic.

6. The treatment of all three forms of malaria with the stated doses seems so far to be of at least equal value with chinoplasmin and plasochin Co. It is superior to the simple quinine treatment, indeed with intramuscular injections, at least relative to the gametocide action.

Green treated 50 cases of malaria with atabrine and 46 cases with dihydrochloride of quinine, and concludes from the very careful notes made from his cases:

1. "Atabrine compares favorably with quinine in ridding the blood of malarial parasites and in relieving symptoms. So far it seems superior to quinine in preventing relapses.

2. Atabrine is not unpleasant to take, but in a small proportion of cases it gives rise to abdominal pains. When comparatively large doses are used, and excretion of the drug is delayed, a yellowish discoloration of the skin appears which may remain from 8 to 15 days.

3. Atabrine, like quinine, does not affect the viability of P. vivax or P. falciparum. Its use, however, over a period of seven days or less destroys the gametocytes of P. vivax with sufficient rapidity to prevent mosquitoes becoming infected from benign tertian

cases within three or four days after treatment commences. Among gametocyte carriers of P. falciparum neither atabrine nor quinine may be regarded as an efficient drug in preventing the infection of mosquitoes which have access to such patients under treatment.

4. The optimum doseage for all forms of malaria is probably .1 grms. per 15 Kg. of body weight per day, given over a period of six or seven days. Treatment should be preceded by preliminary purgation, and it is suggested that the urine should be examined for the presence of the drug each day in all cases under treatment. Late appearance of the drug in the urine may be taken as an indication that the drug is accumulating in the body in greater concentration than desirable, and this may give rise to discoloration of the skin or sclerae."

Of seven patients infected with the same strain of P. falciparum, Rome II, by means of mosquitoes, James and associates treated 5 with .3 grm. atabrine daily for five days, and two with quinine. The primary attack was quickly controlled; but the quinine treated cases had numerous recrudescences, while those treated with atabrine had none. Several other patients were given atabrine; among them were four who had continued to relapse for more than six months after the primary attack, and two of them had had blackwater fever. In each case there was quick disappearance of fever and parasites, and no subsequent recrudescences. Among 17 cases treated with atabrine, one course .3 grm. daily for five days failed in only one case to effect a cure. A second course of atabrine of 7 days relieved the symptoms and no further recrudescences occurred. These cases are especially instructive, because they eliminate the usual errors in Chemotherapeutic experiments.

Others have reported on atabrine in malaria—(Napier and Gupta; Denowski; Arbono; Thamand; Neumann; Napier, Butcher and Gupta).

During the last malarial season we carried out a study designed to test the comparative value of different forms of treatment of malarial fevers.

This drug, as well as plasmochin, was kindly furnished us by the Winthrop Chemical Co. We started out with a series treated with atabrine alone and when the supply ran out temporarily, we began a series with quinine alone. We followed these by series treated with atabrine and plasmochin, and quinine and plasmochin.

We had an excellent opportunity as to material, as malaria has been unusually prevalent in this vicinity during this season.

Our method of study was as follows: On admission, a careful history was taken, physical and laboratory examinations were made by the senior student clerks under the supervision of the internes and resident physician, Dr. Greenburg. The microscopic diagnoses were confirmed by Miss Bond, an experienced technician on malaria of the City Laboratory of Public Health. The four hour temperatures and the time of administration of the remedies were carefully supervised and recorded by the nurses in charge. The student clerk made daily thin and thick films of each patient and the specimens with their findings were referred to the author for diagnosis. This was rather welcomed by him as he began his medical career nearly 40 years ago by the study of malaria in the Yazoo, Miss. delta. With the assistance of the social service department a follow-up was carried out up to December 5th, as far as possible.

As Col. James says an ideal antimalarial remedy should possess a fourfold action. It should be effective against sporozoites, schizogony, sporozony, and also against the forms responsible for recidives. Unfortunately, we do not as yet have such a remedy, but the indications are hopeful that a combination of remedies will fulfil these indications.

DURATION OF FEVER

	Atabrine 3 tabs. Daily		Quinine grs. 30 daily		Atabrine tab. 3 Plasmochin gr. ½ Daily		Quinine grs. 30 Plasmochin gr. ½ Daily	
***	Cs.	Hr.	Cs.	Hr.	Cs.	Hr.	Cs.	Hr.
Tertian	5	48	7	34	3	43	7	38.5
Estivo-Autumnal	8	54	13	72	25	52	11	48

*** Cs.—Cases
Hr.—Hours

PARASITOCIDAL

	Atabrine 3 tabs. Daily				Quinine 30 grs. Daily				Atabrine tab. 3 Plasmochin gr. ½ Daily				Quinine grs. 30 Plasmochin gr. ½ Daily			
	Rings Schiz.		Gametocytes		Rings Schiz.		Gametocytes		Rings Schiz.		Gametocytes		Rings Schiz.		Gametocytes	
***	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Tertian	5	1.6	3	1 1-3	5	1.4	4	2.5	3	1.6			6	1.4	5	1.86
Estivo-Autumnal	4	3	7	0	12	3	8	4.33	28	2	17	3	11	2	5	2.2

***C.—Cases
D.—Days

RECRUDESCENCE OR RELAPSE AFTER TREATMENT

	Atabrine		Quinine		Atabrine & Plasmochin		Quinine & Plasmochin	
	T.	E.A.	T.	E.A.	T.	E.A.	T.	E.A.
After 2 months	6	5	6	4	2	18	6	9
Proportion of Relapse	0-6	0-5	0-6	1-4	0-2	1-18	1-6	2-9
Per Cent of Relapse	0	0	0	25	0	5 1-2	16 2-3	22 2-9
Day of Relapse			0	7th	0	?	21 days	1 week
Form of Parasite			0	P.F.	0	0	0	0

No 4. P. vivax—reinfection? No. 9 Insufficient treatment (5 A.)
No. 24. New infection—P. vivax.
0-No. 5. Had only 60 grs. of quinine & 2 Pl.

DISCUSSION

During the course of this study more than 1000 films have been examined. All stages of P. vivax and P. falciparum have been observed. In some of the thick films of rich infections, schizonts of the latter have been seen. In one tertian film a body which closely resembled the illustrations of Schaudinus parthenogenetic form, but on close examination more like the forms described by Schuffner of a double infected cell. The morphology of both species conformed entirely to those characteristics which are generally accepted for the benign and malignant tertian.

In the benign tertian the fever curves correspond to single and double infections, in which one or two groups of parasites predominate. In nos. 5 and 8 of the Atabrine series, the fever curves simulate somewhat the Marchiafava and Bignani curves of malignant tertian. This is due to the fact that the two broods of parasites matured on the same day. They were early infections. James has rarely encountered such curves also in such cases. In many of the Estivo-autumnal charts, it can be seen that the P. falciparum sporulates regularly in about 48 hours at times anticipating or delaying a few hours. Yet there is a tendency for several broods of parasites to be present in the blood and develop independent of each other, giving very irregular curves. In some, as Nos. 7 and 4 of the same series, single and double infections —much like the benign tertian curves, except the duration of the fever is longer. This, as James suggests, is strong evidence of the unity of the P. falciparum.

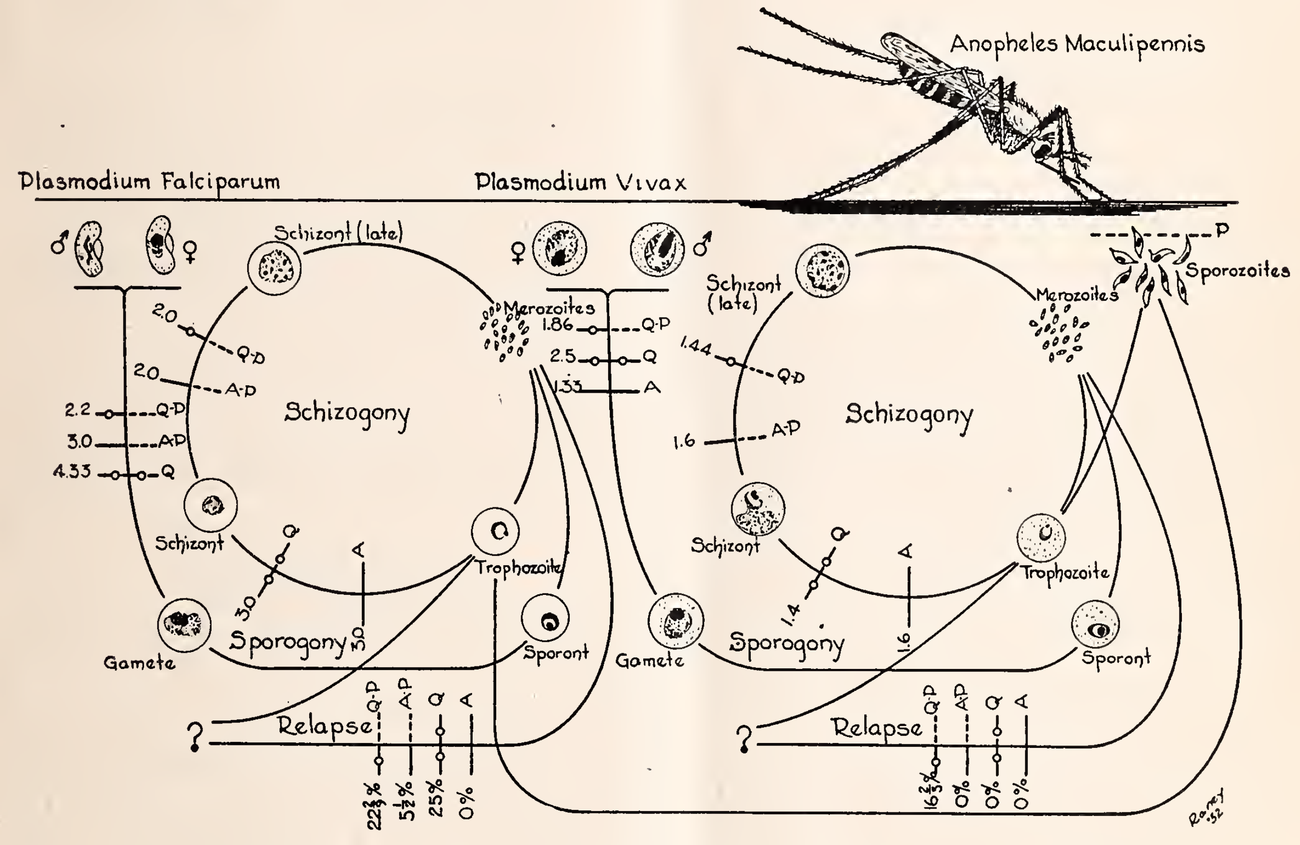
The author, many years ago, concluded from clinical observation, that perniciousness in malaria depended upon the susceptibility of the patient, the type and virulence of the parasite, the severity of the infection, and the tendency of the P. falciparum to collect in the capillaries of the internal organs. In the majority of instances the pernicious attacks are associated with the P. falciparum, occasionally comatose attacks have been observed in children with P. vivax infections. Case No. 10, J. S., of the Atabrine and Plasmochin series, deserves brief comment. This was a case of haemorrhagic malaria infected with P vivax. The practically normal platelet count (385,000), excludes thrombocytopoenic purpura. The absence of previous history of purpura and the subsidence of the haemorrhagic symptoms with the other malarial manifestations on antimalarial treatment suggest malaria as the etiological agent. The mechanism is somewhat problematical. Might there not be a thrombasthenia, such as Glanzmann describes or an endothelial injury as the result of the malaria? There were three other cases of pernicious malaria, one of the Algid type and two of the comatose type. These were all very rich infections with P. falciparum. In a series like this, it is difficult to determine how much is to be attributed to the susceptibility of the patient and how much to the increased virulence of the parasites in cases presenting the more severe symptoms. That the patient may acquire some immunity is shown by the persistence of the parasites some days after the subsidence of the fever. James has estimated the virulence of the parasites by the duration of the fever period, the response to quinine and the tendency to recrudesce.

In some of these cases in which the paroxysms were allowed to continue before beginning treatment, the differences in the duration of the fever period are quite evident. There are in all quite distinct differences in the individual cases in response to each of the forms of treatment used. So that we may conclude that there are different strains of the parasites in the same geographical locality, as James has shown for different localities, as the Indian, Roman and Sardinian strains.

The question of the cause of recrudescences, relapses and recurrences in malaria has excited much interest, and all authors are not yet agreed. In his classic work, Schaudiem says that the recidives after long intervals are due to the long life of the macro-gametocytes and their ability to return to schizonts —parthenogenesis. This view was generally accepted and is today stated in most text books and systems of medicine. It is, however, not accepted by all; James, Craig, Bignani, Whitmore and Schuffner. Whitmore expressed himself very emphatically against parthenogenesis in 1918—and in 1929 he states that the "gametocyte is not in any way concerned with relapse in malaria." Schuffner in 1928 presents evidence to show that the theory of reversion of the macro-gametocytes to schizonts cannot be considered as proved. Schulemann states "we know neither which phase of the parasite gives rise to relapses or recurrences." There is evidence in this series which speaks against the macrogametocytes. There were seven estivo-autumnal infections in the atabrine series discharged with crescents in the blood and none of them had recrudescences or relapses at least with

P. falciparum.

Another interesting question is the type of parasite in the relapse. In discussing this subject, Green states that "previously Fletcher in Malaya noted the frequency with which benign tertian parasites were present in the blood during a relapse, although when the patients first came for treatment other forms of parasites were found. Similar observations have been made in other countries; and the possibility that one species of malarial parasite becomes converted into another has been seriously considered as an explanation of these findings. As a more likely explanation, some authorities put forward the hypothesis that, in certain mixed infections, one species becomes predominant during the acute phase of the malarial attack and remains predominant for some time. If this may be accepted, the results given in the table above suggest that an unexpectedly large proportion of malarial infections in Malaya are mixed; but, during the acute phase, when the patient seeks treatment, one or the other of the parasite species predominates and is the only one found; the other, or latent form of parasite, is probably sporulating quietly in the backwater of the blood stream, or occurs in such small numbers as not to be evident in thin or thick blood films. These latent forms may possess a greater resistance to the action of drugs, or, by reason of their position in the body, may fail to be subjected to the drug in its usual concentration; either possibility would explain their tendency to appear or relapse." No. 4, J. M., an estivo autumnal treated with atabrine, returned to the hospital in 26 days after discharge with a P. vivax infection; Case No. 23, H. B., and E. A. treated with Atabrine and plasmochin, returned to the hospital two months after discharge, also with a P. vivax in his blood. Rather than the explanation given by Green for his cases, a reinfection in these cases would possibly be more probable.



Quinine is generally recognized as an efficient schizontocide. It is less efficient in preventing recidives. According to James, quinine treatment of the primary attack brings about a permanent cure in less than 20 percent of malignant tertian and 50 percent of the benign tertian disease. Of 107 patients infected with P. vivax (by mosquito bites) who were observed continuously for more than 6 months, apart from the recrudescences and relapses which occurred earlier than 24 weeks after recovery from the primary attack, there occurred in 30 percent of the cases a recurrence of the disease at a later period. While undoubtedly in many cases of both Tertian and Estivo-autumnal infections, quinine will cause the disappearance of gametocytes from the peripheral blood, it has been proven a very unsatisfactory remedy against the sexual forms either in destroying them or in impairing their viability so as to prevent infection of the mosquito.

It is the concensus of opinion that plasmochin is chiefly a gametocide, especially is this true with reference to P. falciparum infections. According to some it is to a certain degree effective against the asexual forms of the P. vivax; and according to Schulemann, in association with quinine has reduced the relapse rate in tertian malaria from 50 percent to between 2 to 5 percent.

It is apparent from our series that Atabrine is an efficient schizontocide in both benign tertian and malignant tertian infections, is superior to the other forms in preventing recidives and in combination with plasmochin rids the peripheral blood of both asexual and sexual forms of the parasites.

CONCLUSIONS

Four series of cases of malaria have been treated —one with .1 gm. Atabrine three times a day; one with 30 grs. of quinine three times a day; one with .1 gm. Atabrine and .02 grm. plasmochin three times a day; and one with 30 grs. quinine and .02 grms. plasmochin three times a day; each for a period of five days.

The results are illustrated in the accompanying chart. We have noted no untoward effects from Atabrine, not even the yellow discoloration of the skin. In the cases who had plasmochin, slight abdominal pain was frequently complained of, and in one case the pains were so severe and of such a character as to suggest appendicitis. This patient was operated upon and a normal appendix removed. Neither atabrine nor plasmochin seemed to influence blackwater fever unfavorably. There were three cases of blackwater fever in this series. The patients treated with atabrine were strikingly more comfortable than those treated with quinine.

We are strongly impressed that the best treatment for all forms of malaria at the present time is .1 grm. of atabrine with .02 grms. of plasmochin three times a day.

Abstracts of cases and temperature charts are omitted.

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By J. S. Coe

The Mooney Memorial Library was dedicated in October, 1928 to the memory of Mr. C. P. J. Mooney in recognition of his interest and service to the development of the University of Tennessee.

The reading room is spacious and well lighted and the students as well as any of the visiting Doctors, Dentists, or Pharmacists that might care to use it, have free access to all references, text books, and periodicals which are kept in the open surrounding shelves. If it is more desirable to take the books from the library the students may for a period of one week while the practicing professional man who may care to use the books has an indefinate period to return them.

The adjoining stack room of 100,000 volume capacity contains 13,590 volumes of which 1,600 to 2,000 are being added annually. It houses the bound sets 301 current scientific periodicals of which 112 are complete in back files and 149 are of workable value. Within the stack room conveniently placed at the stack ends, near windows, are 15 cubicles for faculty members and others who are engaged in research.

The class of 1922 has given the library a memorial fund of $3,500.00 and those of 1926, 1927 and 1928 a gift of $2,600.00 each. The income from these funds to be used for the purchase of periodicals and books.

The library is also indebted to the numerous professional men in the city and surrounding territory who have contributed many valuable volumes.

In the graduating class of June '33 only two men from Mississippi completed their medical course, they are:

Ralph Butler Davis, son of J. M. Davis, of McComb, Miss. Dr. Davis belonged to the professional fraternity Theta Kappa Psi and was a graduate of the University of Mississippi, holding a B.S. degree. He will interne at the Baptist Memorial Hospital in Memphis.

James Henry Melvin the son of Mrs. J. H. Melvin of Camden, Miss., who was affiliated with the Phi Chi professional group will interne at the Kansas General at Kansas City, Mo.

The University of Tennessee being a "year 'round" school has just taken on a new group of fledgelings who aspire to be doctors. Quite a number are from Mississippi.

They are, Thomas Grady Burch the son of T. A. Burch of Fulton, Miss. James Eddy Coe, the son of Mrs. R. E. Chapman of Lambert, Miss. Everett H. Crawford son of Dr. B. Lampton Crawford of Tylertown. Guy Kenner Ellis son of G. E. Ellis of Lexing-

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Quite a representation from a class of approximately 28 or 30 men.

Editorial Symposium—Malaria

BY DR. W. A. EVANS
Chicago, Ill.

In The Tropical Disease Bulletin, April, 1933, William Fletcher began a critical review of the literature relating to the newer remedies for malaria, with this statement:

> "The time has come to revise Manson's dictum, 'It is culpable trifling to use any drug except quinine in the treatment of malaria'."

This is true beyond doubt. In programs for therapeutic cure and prevention there are several medicines which are more effective than quinine in several situations.

THE SUPPLY OF QUININE WILL CONTINUE

Nevertheless, it is true now, as it has long been, that for the routine treatment of malaria there is no treatment that is equal to quinine. The postulate that the use of this drug will be abandoned within the next quarter of a century is accepted as untenable. The world's supply of the drug is said to be decreasing and additional quantities of it, as well as of other antimalarial remedies, may need to be developed; but there is no question as to the continued provision of a supply of quinine for a long time to come. The exigencies of the world war caused some apprehension as to the quantity of quinine, and out of that grew a re-investigation of the sources and invention of new anti-malarial remedies—some of which are of great value. But there was not then, nor will there be soon, a material shortage of this valuable remedy.

In the late '70's and early '80's this government placed a tariff on quinine, under which the retail price of the drug rose to five dollars an ounce. This was essentially a tariff for the promotion of malaria. But not even that government procedure served to stop the use of quinine. Incidentally, certain governments, notably Italy, have followed the opposite policy. Attempting to control malaria by subsidizing, fixing the price of quinine at low levels, and even supplying it free as we do with certain biologics and with arsenicals.

FOR THE CURE OF SIMPLE MALARIA PRESENT METHODS ARE SATISFACTORY

Popular methods of using quinine give results that are reasonably satisfactory, else they would not have come into such general use. They will not be changed except as to certain details, most of which relate to the unusual.

The customary method of treating a simple, malarial chill and fever is to begin with a dose of calomel, usually followed by a saline purge, and then giving some fifteen to twenty grains of sulphate of quinine for one day, and about two-thirds as much during the two following days. Probably most physicians give this quinine according to a program of hours and intervals that brings the time for the last daily dose two to four hours before the chill hour. There is no scientific reason for this plan.

The supposition on which calomel came into use has not been sustained but, for some unknown reason, it appears to be of service in the treatment of malaria. The rate of absorption and excretion of quinine and the phases of the malarial parasite on which that drug is most powerful as an antimalarial agent lends no support to the plan. But, on the other hand, there is no special reason for changing it. In the treatment of ordinary cases the margin over needs for efficiency is sufficient and the margin below harmful toxicity is great enough so that the method of use should continue about as it is.

When I studied malaria in Italy several years ago, it was the custom to give the daily dose of quinine as one dose, hypodermically administered. Severe cases of comatose malaria were given twice the amount, in two injections. That plan is not regarded as a good one. For one thing, abscesses result too frequently. In this country the method has never been used to any considerable extent and it need not be discussed here.

There is inconsiderable use of the method of giving quinine solution intravenously. The use of quinine solution for the purpose of sclerosing veins proves the lack of wisdom in using quinine intravenously in the treatment of malaria.

Some physicians rub quinine ointments into the skin. A little of this ointment may be absorbed but the amount is not enough to destroy parasites. Therefore, the method is too inefficient for attenion. The same objection applies to the rectal injection of quinine solutions.

NEED FOR CHANGE IN POPULARLY USED, ADVERTISED CHILL TONICS

Probably more people take quinine in the form of chill tonics than in any other way and this should be discussed among the customary methods. This treatment is inefficient because of the small dosage given. It proves successful in cases enough to continue its use because the ordinary infection is not massive. At least one variation of the parasite, P. Falciparium, is so mild as that infections with it frequently tend to spontaneous cure, regardless of medication. Aside from this, the virulence of all the strains vary considerably, and the powers of nature to cure are almost equal to the task.

In spite of the relative inefficiency of the chill tonic method it often cures. The custom of taking chill tonics is based largely on advertising. It has been abundantly demonstrated that when advertising stops, the use of an advertised remedy ends within one to ten years.

There are several practicable methods of remedying the defects of the chill tonic method of cure.

REMEDIES TO MEET SPECIAL REQUIREMENTS

Although the routine treatment of simple attacks of benign malaria need not be changed, and will not be, there is reason for discussing methods of improving treatment under certain exceptional circumstances. Those to be discussed here are:

A. Malaria in young children.
B. Malaria where there is nausea.
C. Quinine sensitivity.
D. Malarial hematuria.
E. Chronic malaria.

SOME NEWER REMEDIES NOW IN USE

Among the more promising antimalarial remedies, other than the staple quinine products, are the following: Plasmochin, also known as plasmoquin; atabrine, totaquina; and tasteless quinines.

Of these, plasmochin is in widest use. It is especially effective against the gametocyte phase of the malarial parasite, destroying crescents, and preventing the development of the flagellate forms; against schizonts, or the asexual phases of the parasite, it is definitely inferior to both quinine and atabrine. Its special field—the one in which it is superior to all others, is in preventing infected people from infecting mosquitoes. It is superior to quinine in the prevention and cure of relapses, and in the treatment of chronic malaria; and also as a prophylactic.

The daily dose is one-third of a grain. This can be repeated daily for more than two weeks with safety. If the daily dose is as high as one-half grain, it should not be continued for longer than six days.

The prophylactic dose is one-third of a grain. The relative toxicity of plasmochin and other antimalarial remedies will be discussed in a later paragraph.

ATABRINE

Atabrine is more recent than plasmochin, has not come into such wide use, and has not had its field so well determined. It is superior to quinine in the prevention and cure of relapses; in its freedom from roaring and dizziness; and as a prophylactic. It is eliminated much more slowly than quinine and this makes it superior when a persisting action of the drug is required. It is inferior to plasmochin in the effect on gametocytes, ranking higher, however, than quinine.

The usual dose is one and one and one-half grains three times a day, or four and one-half grains taken once daily.

TOTAQUINA

Totaquina was developed out of the efforts of the Malaria Commission of the League of Nations, to lessen the cost of quinine and to increase the supply by having the manufacturers use all of the alkaloids in cinchona bark, and to make use of some chichona barks not previously used in the making of quinine. It is an established fact that cinchonidina has a potency approaching that of quinia, and other allied alkaloids have some effect as antimalarial agents.

The Malaria Commission finally standardized totaquina by requiring that it contain 70 per cent crystallizable chinchona alkaloids, of which 15 per cent must be quinia. The advantages of totaquina are economic rather than therapeutic.

"TASTELESS" QUININES

The use of quinine, including chocolate quinine, with children, is on a satisfactory basis. These preparations compare well with quinine in efficiency, and they are acceptable in taste. Aromatic syrup of eriodyctyon renders quinine quite tasteless but does not alter its activity. About one-fourth grain of quinine can be disguised by two teaspoonsfuls of syrup. Quinine, can be completely disguised by a teaspoonful of the aromatic syrup of eriodyctyon. The following recipe is given by Fantus:

Euquinine Gr. V
Arom. Syr. Eriodictyon (Yerba Santa) fzt
M. Label: 1 Dose, Teaspoon every 4 hours
Shake the label before taking

TOXICITY

Every remedy used against malaria is toxic to the patient. The toxicity of quinine is shown by ringing in the ears, dizziness, and, sometimes, by disturbance of vision, and by hematuria. There are reports of fatalities due to quinine. Plasmochin is toxic. It causes abdominal pain. This being its only cause of discomfort the drug, from that standpoint, is superior to quiuine. However, it is inferior to quinine in that it is liable to cause cyanosis, jaundice, and other symptoms that are interpreted as toxic hepatitis. Castellani is authority for the statement that it might start an attack of hematuria. However, it is far less apt to do that than is quinine.

When the use of plasmochin was being inaugurated the dose given was considerably larger than now used. Some fatalities were ascribed to it, and a degree of fear of it was engendered. Part of this fear remains, but Dr. Deeks esteemed it safe enough in the small dose to put it in the hands of lay plantation superintendents, to be used generally among plantation workers who had no medical supervision.

It is the concensus that plasmochin is more toxic than quinine although less provocative of discomfort.

Atabrine may be the least toxic member of the three although it is apt to produce one disquieting effect, and that is a yellowish discoloration of the skin. This effect is particularly disconcerting in malaria because of the tendency of the disease to produce the same effect. When the jaundice is caused by malaria it is a bile staining which may be due to cholecystitis, or liver dyscrasia and, therefore, is quite serious.

The yellowness which often stains the tissues when atabrine is being taken is not due to bile nor to any blood dyscrasia. The drug acts as a dye to certain body cells. Therefore, the apparent jaundice is without the significance of jaundice due to malaria.

In the giving of atabrine the development of yellowness is unfortunate, not because it denotes toxicity, but because of the difficulty in establishing that true jaundice is not present, and the anxiety which results from the uncertainty. No nausea, dizziness, roaring in the ears, disturbance of vision, nor other sources of discomfort are caused by the use of atabrine. When given in the customary doses, atabrine is the safest and the least apt to cause discomfort.

There is no reason for evaluating the toxicity of tolaquina and of tasteless quinine as different from that of ordinary quinine in the equivalent therapeutic doses.

* * *

These considerations having been given, the foundation is laid for a discussion of methods of treating those forms of malaria to which the routine quinine treatment is not adapted.

A. MALARIA IN CHILDREN

In the types which would be treated by three to five days of quinine medication, but in which quinine cannot be used because of the difficulty of administration, the use of chocolate and tasteless quinine is satisfactory, both from the standpoint of efficiency and ease of administration. Most of these remedies make use of some cinchoma alkaloid other than quina. These alkaloids have an efficacy rate that is within twenty per cent of that of quinine. Something less than twenty per cent increase in the dose over the twenty-four dosage per pound of weight of the youthful patient meets the indication. For example, if a child weighing 30 pounds would take a total of eight grains of quinine in twenty-four hours, nine to ten grains would be given instead.

Most of the tasteless quinines are made with Yerba Santa. This combination has a taste that is not unpleasant. If for any reason, tasteless quinine is not feasible, the dosage of atabrine to be used is given by Eckhardt as follows:

Age	Daily Dose	Total for 4 to 5 Days' Use
0 to ½ year	16 37-100 grain	1⅛ to 1½
½ to 1 year	3-4 grain	2¼ to 3 grains
1 to 2 years	1½ grain	4½ to 6 grains
2 to 4 years	2¼ to 3 grains	6¾ to 9 grains
4 to 8 years	4½ grains	12 to 15 grains
Half grown	4½ grains	18 to 22 grains

B. MALARIA ACCOMPANIED BY GREAT NAUSEA

In many cases in which nausea appears to make the use of quinine inadvisable, a cause for the irritability of the stomach can be found and. in some instances, removed. It may be acidosis. If so. that may yield to fruit juices and alkalis. If the rectal pouch is filled reverse peristalsis, leading to stomach irritability and nausea may ensue. In such cases, emptying the pouch by enemas, laxatives, or purgatives may make it possible to give quinine. The use of purgatives is generally preferred, though something can be said for enemas in preference. One of the arguments for the use of calomel is that it allays nausea. Rather oddly, those who oppose the use of purgatives as a part of malaria treatment assert that they cause some reverse peristalsis and nausea, and thus delay and lessen the absorption of quinine.

Where the stomach is intolerant of quinine, the best substitute is atabrine. The action of this drug on the schizont, or the asexual cycle, is approximately as good as that of quinine. The daily dose is about 1½ grains. Some prefer to give this in one daily dose; others give it in three doses of ½ grain each. It is given for seven days. The total of the dosage for seven-day treatment is about 10 grains.

C. QUININE SENSITIVITY

There is an occasional person who develops urticaria after taking quinine, or in whom this drug causes such disturbance of hearing or vision, or both, as to make its use hazardous or inadvisable. Such people can take atabrine in place of quinine, the dose being as set forth in the preceding paragraph.

D. MALARIAL HEMATURIA

In this disease there is a sensitivity to quinine that manifests itself by a lysis of the blood which excretion of the lytic products by the kidneys. Those who have this disorder are very greatly in need of quinine, but to meet that needs subjects them to the great hazard of hemolysis.

Hematuria develops among those who have been infected with a strain of the malarial parasite that has peculiar qualities. One of these is an exceptional tendency to relapses. Another is an unusual tendency to crescents and flagellate forms. The strain seems to have some fixedness of type. It has some tendency to predominate late in the fall and in the winter time, and to limit itself to certain localities.

In place of quinine atabrine is given for, say, six days. If, at the end of the time, the urine has cleared it should be safe to give quinine. If that is desired it should be gven in doses of twenty grains daily for three days.

At the end of this three-day period the antimalarial treatment should again be switched—this time to plasmochin compound. This is a combination of quinine and plasmochin, in the proportion of 30 to 1. The dose is one tablet of 4½ grains of quinine and 1-6 grain of plasmochin three times daily for two weeks.

McQueen reports the successful treatment of several cases of malarial hematuria with atabrine and plasmochin given during the acute attacks, and continued for a brief period thereafter. He says: "Both plasmochin and atabrine can be used with absolute safety in the field, provided reasonable care is exercised in their administration."

Since both quinine and atabrine are not highly effective against crescents and flagellate forms, unusual pains must be taken to screen the patient against mosquitoes both during the first week of the illness and, for that matter, for the remainder of the malaria season.

The indications are that it will be safe enough to finish up the after-treatment without recourse to quine if re-infection is prevented. The advisability of repeatnig the course of atabrine and plasmochin in such cases should be given consideration.

E. CHRONIC MALARIA

The Bass treatment of malaria to complete the cure of the infection is supported by the highest authority. It was so much approved that, in some quarters, though without warrant, it has been termed the official method. It consists of full quininization for three to four days, 30 grains daily in most cases. Then, from 10 to 20 grains of quinine are given daily, usually at night, for long enough to make up a total of eight weeks.

The drawback to this method is not lack of efficacy but the discomfort and inconvenience. It has not been possible to get any large part of the malarial subjects to take quinine in such full doses for so long a time. To increase the difficulties of the promotion of the method, most strains of malaria are too mild and too curable to make this prolonged treatment necessary. A small proportion of the cases are self-limited, getting well without any treatment; and a still larger proportion get well after but little treatment.

In other countries where malaria is severe and tends to become chronic, quinine treatment differing somewhat from the Bass treatment has been widely used. In India, the Sinton treatment is often referred to as the standard treatment. It begins with a three grain dose of calomel, followed by a dose of magnesium sulphate. It is followed by quinine in solution, each dose being preceled by a dose of an alkaline solution.

The quinine mixture consists of:
Rx—
Quin. Sulph. gr. X
Acid citric gr. XXX
Magnesii Sulph. Gr. LX
Water enough to make dessertspoonful.
S. One dose.

The formula for the alkaline solution is:
Sodii bicarb. Gr. LX
Sodii citrate Gr. XL
Calcii chloride Gr. III
Aq. qs. to make 1 ounce.
S. One dose.

Some alteration of the amount of alkali and of magnesium sulphate in these formulas may be made necessary by the peculiarities of the patient. Each dose of the quinine solution is preceded by a dose of the alkali solution, the interval between the doses being one-half hour.

The quine solution is given three times daily for one week, the total amount of quinine given being 210 grains.

In addition, one-quarter of a grain of plasmochin is given once daily after a meal. If there are reasons for anticipating relapse, this treatment is repeated for another week. During the third week two doses a day of the quinine solution (and the preceding dose of alkali is given).

Knowles uses a modification of the Sinton treatment, as follows:

In those cases where relapses seem to be impending the treatment is continued for ten days only. During this time a total of 200 grains of quinine solution, and the same quinine solution, except that he varies the amounts of alkali and of magnesium sulphate, according to the peculiarities of the patient. Two doses of the quinine solution are given daily.

During the last six days of the ten, one one-hundreth of a grain of plasmochin is given in one daily dose taken after a meal; or, a total of six one-hundreths of a grain. Both the Sinton and the Knowles treatments are shorter than the Bass treatment, and the amount of quinine used is less. Both add plasmochin.

While a decrease of the length of treatment to ten days' duration is highly desirable and will promote the use of a follow-up treatment to prevent chronic and relapsing malaria, further reduction in time and in discomfort is necessary if the method is to be brought into general use. The availability of atabrine, its superiority as an agent for the prevention of chronicity of infection, and its apparent lesser toxicity suggests the following treatment for chronic malaria. (It should also be given preference in the treatment of attacks of malaria occurring after August in highly malarial regions.):

Three days of full quinization—the three-day treatments now in general use. To this should be added three doses (one daily after a meal) of one-sixth grain of plasmochin. Following this three-day treatment atabrine, is given in doses of one and one-half grains daily for seven days. The daily dose can be given in one dose, or divided into three. This is followed by an iron tonic for a month or more.

Reinfection should be avoided, as far as possible. Dr. Deeks laid great stress on the use of iron and arsenic tonics, and of good food, as measures necessary for complete convalescence. Incidently, we may see he advocated the use of both Atabrine and plasmochin.

F. RELAPSING MALARIA

Malaria has a peculiar way of lying dormant somewhere in the internal organs until exposure to cold causes a relapse. In such cases the plausible explanation is that there has a reinfection. But there are cases in which there is no possibility of reinfection, and the organisms must have been dormant in the body during the period of latency.

When such a case develops in circumstances that make it probable the infecting strain is one with the relapsing tendency, the drug to use is atabrine. It should replace quinine, both to break the acute attack and to prevent relapses. Since most provable relapses occur out of mosquito season or away from the mosquito habitat, there is no special need for the addition of plasmochin.

G. PROPHYLACTIC TREATMENT

Quinine has almost fallen into disuse as a prophylactic. It is even claimed that using it causes the development of a strain of parasite that is malaria-resistant. Therefore, the treatment does more harm than good.

Five grains of quinine is about as large a dose as men can be persuaded to take as a prophylactic, and that amount will not make a solution in the blood that is strong enough to kill schizonts. Of course, it is wholly ineffective against gametocytes.

As a prophylactic, Barber gives one-sixth of a grain of plasmochin daily twice a week. It was effective so long as it was continued, but two weeeks after its discontinuance men exposed to infection again became infectable. The same experience was had by Klegler and others.

The experience of the United Fruit company with it has been satisfactory to them.

An editorial in the Indian Medical Gazette, June, 1933, says: "Antigametocyte treatment is now a practicable sanitary measure." The use of plasmochin as such is advocated. "The time has passed when it can be said that plasmochin should be given only under hospital conditions." Incidentally, this editorial says plasmochin is as effective as quinine against schizonts of benign tertians, but not against those of malignant tertians. Also, that atabrine is superior to quinine in preventing relapses.

The prophylactic use of a drug, and this includes plasmochin, is not a satisfactory substitute for drainage and other methods of mosquito control. Drug prophylaxis alone is to be relied on only where other methods are impossible of application.

Eary Problems in the Newborn

BY W. A. RUCH, M.D.
Memphis, Tenn.

It is the duty of every physician who delivers a baby to give that baby a thorough examination soon after birth to make sure that the baby is a normal, healthy infant. If there are any congenital abnormalties or injuries resulting from birth they should be dicsovered at once and the parents, at least the father, informed of the condition and its consequences. The problem which then confronts the doctor is just what prognosis to give the parents; what type of treatment is essential for the child's welfare; and when treatment or operative interference should be considered. To explain these points to the over anxious parents a physician cannot be too well informed upon potential conditions. It is the intention of the author to give a resume of the most common conditions occurring at birth with the opinion of various known writers in regard to their treatment.

In discussing these early problems it is perhaps best to divide them into three groups: 1. Pathologic conditions and diseases present at birth or shortly thereafter. 2. Accidents resulting from birth. 3. Congenital malformation and anomalies.

ICTERUS NEONATORUM

In the first group the condition most frequently encountered is probably jaundice or icterus neonatorum. This condition is found in nearly 75 percent of the newborn, and hence is looked upon as pathologic. It is characterized by an icteroid discoloration of the skin and sclera. Icterus is especially frequent in feeble and premature infants.

Neonatal jaundice owes its origin to an excess of bile in the blood, due to the marked hemolysis which occurs shortly after birth. It has been attributed to hepatic sources owing to the belief that the liver in the early neonatal period has not fully assumed its function. In fatal cases the bile ducts have been found at autopsy plugged with mucus and the gall bladder greatly distended. The discoloration is not present at birth but usually is noted first on the third or fourth day of life. The simple form may last two weeks but usually subsides within a week or ten days, and this prognosis is always assuring to the parent who does not understand the condition.

This form of icterus is not attended with thermal, respiratory or circulatory alteration. Bile is usually present in the stools but not in the urine, except in the septic type of neonatal jaundice. Jaundice due to congenital occlusion of the biliary passages is associated with the characteristic clay-colored stools and definite enlargement of the liver and spleen. Icterus of the septic origin almost invariably arises after the sixth day or later. It is accompanied by all the systemic symptoms and signs of grave infection.

Since the disorder is self-limited, no therapy is necessary, however, the condition will clear up much quicker if the bowels be thoroughly evacuated with castor oil and warm irrigation. In persistent cases digestive disturbances call for correction. In icterus

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due to septic infection, treatment is of little avail.

ATELECTASIS

This is due to failure oi the lungs to distend with air. The condition may owe its origin to some obstruction or malformation of the air passages. Lack of expansion is especially common in infants born prematurely and those otherwise feeble. The left lung is more frequently involved than the right.

Respiration in rapid, feeble and shallow. The temperature is normal and the color of the skin good. Usually the infant is unduly quiet and cries but little or not at all. If it is disturbed, it tends to become cyanotic, and at the same time the respiration becomes much more rapid. Recovery in marked cases is not hopeful, and unless the lungs expand rapidly death unquestionably will occur. The father of the baby, or some relative, should be warned at once of the baby's condition. In all of these cases the question whether or not the mother should be informed should be decided according to the individual type of mother which you have in each case. Even if the baby lives a few days the parents should be told that in this type of case an unexpanded lung is especially prone to infection and fatal pneumonia is by no means an uncommon sequence.

In the way of treatment the baby should be made to cry. Its position changed frequently. Warm baths, gentle massage, careful feeding, carbon dioxide (10 percent) in oxygen inhalations are all helpful measures. Should asphyxia threaten, artificial respiration may be instituted.

CAPUT-SUCCEDANEUM

In many cases of normal, but more especially in cases of prolonged labor, there is present at birth a localized swelling in the scalp in vertex presentation. The infiltration is due to a serosanguineous infiltration of the subscutaneous tissue in the part of the presentation which bulges through the girdle of contact. The girdle may be in the cervix, in the upper part of the vaginal canal or just within the vaginal orifice. The engagement is similar to that observed after the application of a tourniquet to an extremity. Usually it appears as a small cushion-like mass comparable in size and contour to a large plum. In consistence the swelling is soft, and in color somewhat purplish. It is present at birth, but vanishes shortly thereafter, usually in 24 or 48 hours. Treatment, therefor, is very seldom necessary.

CEPHALHEMATOMA

Occasionally there may occur a rupture of the blood-vessels coursing between the periosteum and the bone, resulting in the formation of a hematoma. Because the effusion of blood is beneath the pericranium, the tumor cannot, like a caput, extend beyond the border of the bone upon which it forms. In other words it cannot cross a suture. The tumor may follow any form of difficult labor, but it is especially prone to develop after difficult forceps delivery. The swelling does not arise until some time after birth, and it is rarely recognized before the second day. It may continue to enlarge for a day or two, and then slowly diminish, finally disappearing in the course of eight to sixteen weeks.

A meningocele must be differentiated from a hematoma in these cases. A meningocele is present at birth. It is situated over the suture or a defect in the bone. It grows tense when the baby strains, and if pressed upon, breathing may cease and convulsions ensue.

Like caput succedaneum, cephalhematoma rarely requires treatment. If it persists indefinitely, incision with drainage may be necessary.

MELENA

Melena is a term used to indicate bleeding from the gastrointestinal canal. The source of the hemorrhage in many cases can be traced to minute ulcers in the stomach and small intestine. Among other causative factors are syphilis, sepsis, trauma and asphyxia.

The outlook in these cases is always grave. While recovery frequently takes place when blood is found only in the stools, the outlook is practically hopeless when it is merely vomited. When present in both stools and vomitus, the chances are not bright.

Treatment consists of blood, administered subcutaneously, intramuscularly, intraperitoneally, or even intravenously.

MELENA NEONATORUM

This is the term employed to indicate a hemorrhagic tendency in newborn infants, and is due in most cases to a dimunition of the prothrombin elements of the blood, and hence is essentially a qualitative defect in the blood platelets. The condition is definitely recognized by determining the coagulation and bleeding time of the blood. The treatment is the injection of whole blood the same as for Melena.

INTRACRANIAL INJURY

In group two "Accidents Resulting from Birth," intracranial injury is probably most frequently encountered although not always recognized. Of all cephalic injuries caused by trauma of birth those affecting the contents of the skull, brain and meninges, are the most important. This fact was duly appreciated even in older medical literature. It always seemed obvious that all severe injuries of the cranial bones, such as deep indentations and guttered fractures as a rule, would also damage intracranial structures. It is more surprising that while it has been known for a very long time that serious intracranial lesions, especially meningeal hemorrhages, not so rarely are encountered in autopsies of newborn infants even in the absence of any evidence of traumatism, the obstetrician only of late has deemed it necessary to utilize this knowledge for the purpose of preventing these serious lesions.

On the other hand while many cases may be ascribed to gross injury of the brain during labor, and in breech and version cases especially, in a large number of instances the hemorrhage is an expression of a bleeding tendency. This is due probably to a low thrombin content in the blood.

With extensive hemorrhage the infant is nearly always stillborn. In some cases it may be found immediately after birth with the baby in a state of asphyxia pallida or asphyxia livida. Resuscitation may be exceedingly tardy and, even after respiration is established, breathing is usually feeble, irregular, and maintained only with great difficulty. Following resuscitation, intracranial stress is manifested by marked restlessness, wakefulness, a squeaking, feeble cry, refusal to nurse, twitching of the eyes, face and limbs, and often convulsions. In some cases the infant may appear normal at birth and symptoms may not arise for some hours, or even days thereafter. In this type the labor is usually apparently normal in all respects. The cause of the hemorrhage in these cases is probably due to a low thrombin content in the blood. In this type the infant becomes cyanotic and is attacked with convulsive seizures. A positive diagnosis of intracranial bleeding may readily be made in all suspected cases by spinal puncture, preferably between the second and third lumbar vertebrae. It is better, however, to wait 21 to 18 hours after the supposed injury so as to avoid disturbing clot formation.

Prognosis is largely grave, and death follows in many cases. Should death not occur it is always best to inform the family of possible sequelae as to paralysis and mental defectiveness.

The treatment, of course, should be in the first place largely preventive. In all hard labors or difficult deliveries one or more intramuscular injections of whole blood should be given the baby. Active therapy consists in lumbar puncture with extraction of from 10 to 20 cc of cerebro-spinal fluid—repeated until the fluid drains clear—combined with the administration of whole blood subcutaneously, intravenously or intraperitoneally. The infant should be kept as quiet as possible with the head elevated. Small doses of Elixir Luminal may be used to control convulsions.

FRACTURES

Due to better obstetrics the number of depressed skull fractures seen today is diminishing. Fractures of the cranial bones may result from forceps pressure or extraction through a narrow pelvis, with indentation of the parietal bone from pressure against the symphysis or sacral promontory. In some instances the depression may be overcome by firm pressure in a direction opposite to the line of fracture, while in others the depressed bone may be restored by slipping the point of a vulsellum underneath and lifting it up. In conditions of this kind, where possible the infant should be placed in the hands of some one trained in head and brain surgery.

Intrauterine fractures sometimes take place but are rare. These are usually found united at birth, though in some instances there may be non-union. Fractures during birth are relatively uncommon, due largely to the elasticity of the bones, which give when subjected to strain. Fracture of the femur is most frequent. This is generally sustained during the extraction of a breech presentation and occassionally during extraction of the baby from the uterus during a Cesarean section. Fractures of the humerus rank in frequency with those of the femur. The prognosis of fractures of the long bones in the newborn, if properly treated along standard surgical lines,

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BRACHIAL PLEXUS INJURIES

Brachial paralysis as the name implies, is due to injury of brachial plexus. Two forms are described (a) upper arm type, (b) lower arm type. The former may occur alone, but in the latter there is usually a combination of the two varieties. The injury is due to traction, pulling the head away from the body or vice versa. The prognosis depends upon the extent of the nerve trauma and should be guarded. Rest is of prime importance. This is best secured by placing the arm in a suitable splint, arranged at right angle to the body. Rest may be alternated with gentle massage, and electrotherapy may be employed. Fixation must not be too prolonged lest the joints become stiff. The concensus of opinion seems to favor the above treatment being begun immediately upon discovery. Operative measures have been instituted, but not with encouraging results.

FACIAL PARALYSIS

Facial paralysis is due to compression of the facial nerve by forceps, or pressure by abnormalities of the bony pelvis during delivery. The site of injury may be in the peripheral trunk of the nerve, or near its course within the skull. Most commonly it is near the exit through the stylomastoid foramen.

Facial palsy is nearly always onesided. Both upper and lower portions of the face are always affected. The paralyzed side is smooth, rounded and sometimes swollen. The lack of symmetry of the two sides of the face is always conspicuous. When due to intracranial damage facial paralysis may be either unilateral or bilateral.

In the peripheral form no treatment, save protection of the eye, is indicated. The prognosis is good. The treatment of the intracranial form is along lines employed in the theraphy of intracranial hemorrhage.

Hematoma of the sternomastoid muscle is due to rupture of the muscle fibers and vessels with a localized accumulation of blood. It is found most frequently in breech cases, though it is met with also in vertex presentations. The hematoma appears as a circumscribed hard swelling within the muscle sheath, usually on the right side. The condition must be differentiated from congenital induration of the muscle resulting from pressure of the neck against the symphysis. This is most frequently encountered in vertex presentations, and usually over the left side. A hematoma gradually disappears by absorption, and the second type, though it may lead eventually to shortening of the affected muscle or wry neck, gradually disappears. The author had a case of the former occurring in a child whose mother it is interesting to know had a wry neck. The lesion in this baby disappeared after five months.

Of the three groups of cases the last group "Congenital malformation and anomalies," probably cause the most discussion in regard to the proper treatment and time for giving it. The parants of the child always want to know immediately if the condition in question can be taken care of and how soon.

UMBILICAL HERNIA

Umbilical hernia is common in infants. The usual type is not noted at the time of birth but manifests itself shortly afer. There is, however, a certain type of umbilical hernia which exists at birth. This is called hernia into the umbilical cord, or examphalos.

The latter is the result of an arrest of development. Operation is the only treatment in this condition and should be undertaken as soon as possible after birth. In cases operated upon within a few hours, where complete reduction of the contents is possible, the outlook is excellent.

The other type of umbilical hernia is common and occurs either as a protrusion through the center of the umbilical ring or, more commonly immediately above it. It is usually noticed a few weeks after birth. In general the sac is small, non-adherent and easily reducible. There is no tendency to strangulation, but in rare instances, the condition may give rise to digestive disturbances. Spontaneous cure may occur if the sac is small and reduction of its contents is maintained. The best method of maintaining reduction is with adhesive plaster, with or without a flat pad. Radical operation is indicated when, for any reason, mechanical treatment has proved of no avail. If possible, reduction should be maintained until operation is carried out, and in general it is better to wait until after the child is three years old.

CONGENITAL CLEFT LIP (Harelip) AND CLEFT PALATE

Cleft lip is a congenital notch or fissue in the upper lip, and cleft-palate is a defect in the roof of the mouth. Either of these conditions may exist alone, but they usually occur in combination and are among the more common congenital malformations. The incidence has been estimated as approximately one in twelve hundred births, the various defects, and the many combinations of them, are due to lack of fusion of the several processes which form the face. Operative repair is the only method of treatment and should be undertaken as soon after birth as the baby's physical condition will permit. The only exception to this rule is in the case of an incomplete cleft of the lip without involvment of the alveolus, when the operation may be deferred until the latter part of the first year.

HYDROCELE

An accumulation of serous fluid in some part of the processus vaginalis constitutes a hydrocele. The tumor is translucent and flat on percussion. In the common hydrocele of the tunica vaginalis occurring in infants there is a great tendency to spontaneous disappearance. If the tumor persists and is increasing in size it may be aspirated by means of a thin hypodermic needle. In those hydroceles connecting with the peritoneal cavity operation is indicated but may usually be deferred until the child is two years old.

IMPERFECTLY DESCENDED TESTES

It is very rare to find the testis in its original position behind the kidney, the usual situation being within the deep inguinal ring. When the gland is arrested at any point in the inguinal canal it is described as an imperfectly descended testicle. The various abnormalities are usually unilateral and occur once in one thousand male children. The gland may be recognized by palpation and it may be possible to push it back into the abdomen or down into the scrotum. The treatment should be operative and trusses avoided.

The question resolves itself into choosing the appropriate time for operation. In the first place, in those cases where the testicle is in the inguinal canal, low down, or in the upper part of the scrotum, it is better to wait until the approach of puberty as there is a reasonable chance of normal descent. This is not true in the inguinosuperficial type which is common and in which the testicle has come out of the superficial ring and ridden upon the aponeurosis of the external oblique. In general operation should take place between the ages of four and twelve, the best time being from the sixth to eighth year.

HYPERTROPHIC PYLORIC STENOSIS

Congenital stenosis of the pylorus, while not frequent, can no longer be regarded as rare. The condition must be differentiated from pylorospasm. In pylorospasm there is no visible peristalsis and a pyloric tumor is never observed. The clinical symptoms of stenosis are projectile vomiting, emaciation and progressive loss of weight. The signs are visible gastric peristalsis, pyloric tumor, and sunken hypogastrium.

Medical treatment in stenosis is of little avail. If after a trial of a proper dietary regime combined with lavage, the symptoms and signs do not improve, operation must not be delayed. Pylorospasm as a rule responds to lavage, proper diet and the administration of atropine (1-1000 grain) before each feeding.

MALFORMATION OF THE ANUS AND RECTUM

Malformation of the anus and rectum are infrequent, occurring once in ten thousand births, but the condition is and must be treated promptly and with decision. There may be a narrowing of the canal with the anus in its normal situation. The presence of the anus in its normal situation may lead to confusion until a digital examination is made. Attention is directed to the condition by the child having difficulty in defecation and crying and straining during the act. The stricture may be annular or tubular. In the former simple division is all that is necessary; in the latter a linear incision with subsequent dilatation by means of bougies.

The anus may be imperforated with a narrow tract extending forward from the rectum to open just behind the scrotum. Treatment consists in making an opening through the normal site of the anus and dissecting out the tract extending forward.

The most common malformation of the anus is its occlusion by a thin membrane. This membrane bulges and sometimes meconium may be seen through it. In this form a simple crucial incision, with trimming of the edges. is sufficient to cure the condition.

The anal canal may be absent. In such cases there may be no indication of its position or the site may be marked by a dimple.

The anus and canal may be normal but separated from the rectum by a thin membrane.

There may be a complete absence of the rectum, the

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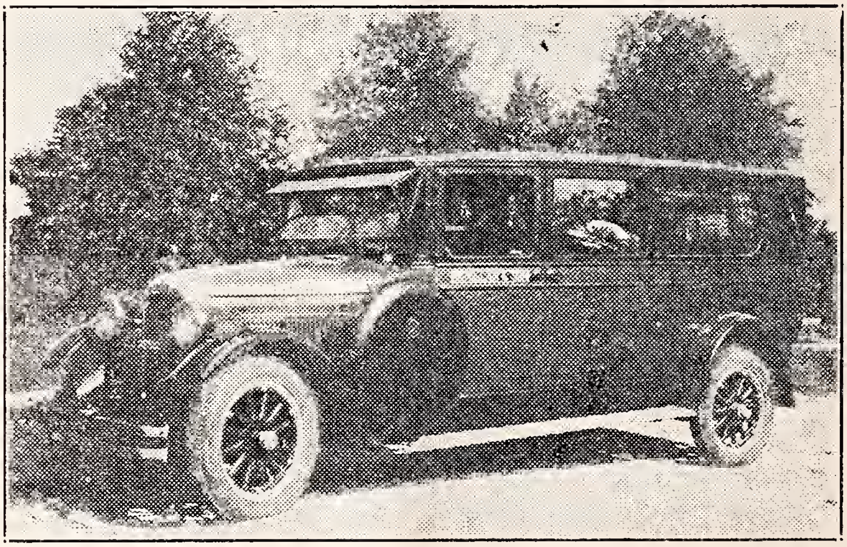

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colon ending in a culdesac. The anus may be absent or present and separated from the colon by a thin bridge of tissue.

In all these cases surgery should only be attempted by one acquainted with this type of condition as any error in technique may prove extremely detrimental but if there is a complete obstruction, operation should be undertaken as soon as the condition is discovered.

CLUB FOOT

Club-foot is one of the most common congenital malformations, occuring about once in every thousand births. It more commonly affects males and is usually bilateral. Heredity plays an important part. Abnormal intra-uterine pressure, and amnoitic abnormalities including smallness of the amnion are likely causes. The treatment consists in early corrective measures, the foot being fixed in the normal position by firm bandages, adhesive plaster or casts. With care, the position may be corrected in the first few days, and held in position by bandages or adhesive plaster until casts can be used safely. Casts must be changed frequently because of growth of the parts.

CONGENITAI DISLOCATIONS

The most common congenital dislocation is that deformity escapes notice during the early days of of the hip joint. In the majority of instances the the deformity escapes notice during the early days of life, often only becoming evident when the child learns to walk. The affection is six or seven times as frequent in girls as in boys, and is bilateral in little less than half. Active treatment should not be commenced until the age of two and one-half years.

CONCLUSIONS

When one considers that the conditions discussed in this paper are just a few of the many conditions which may occur in the newborn and realizes the consequences which may result from indifference or neglect the burden of responsibility resting upon the attending physician becomes one of no mean proportion.

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Mrs. Dan J. Williams, Editor

Gulfport, Mississippi

Before the June number of our "Mississippi Doctor" was in the mail, it was my privilege to hop in our Ford with my Doctor for a most interesting and educationay trip east and north. I fear our Auxiliary department was neglected and I offer apoligies, with a promise to be made dependable in the future.

Leaving June 12 we went east through Florida, north to Georgia, South Carolina and North Carolina, the native state of my parents. After a health conference in the east, we hastened on to Detroit and other points in Michigan where relatives and friends greeted us, then on to the wonderful "Century of Progress" in big old Chicago. Of course there is too much to even mention in this brief article, but will say that every practicing physician who misses the wonderful exhibits and lectures in the Hall of Science alone is indeed making a mistake if he can possibly make the grade. So much can be seen and heard without extra cost that one does not need to feel it takes a small fortune to "do the fair." And say, Doctor, when planning this trip, do not say I, make it "we" and take "her". You will have a much richer mental picture of things if you know the one who helped you make what you have was there too. And she will get a whale of a kick out of the hundreds of exhibits that touch her daily home-life.

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The stationary, as sent out by our President, Mrs. Frann L. Van Alstine, is very neat and appreciated by the various officers. We notice two vacancies among the councilors and I am going to ask our editor to print the list. If any one in either of the two districts without a councilor will serve or suggest one who will I am very sure Mrs. Van Alstine would greatly appreciate your taking it up with her.

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Chronic Endocervicitis

BY DR. A. D. HURT,
Corinth, Miss.

It is the purpose of this paper to bring more vividly to our attention chronic inflammatory conditions of the cervix uteri. Some of us in general practice are inclined on occasions to recommend a series of douches combined with tamponades, making merely a hasty and precursory examination of the organ. In certain instances this regime may suffice, but in a goodly number of cases other treatment is necessary.

Chronic endocervicitis may for convenience be divided into two main classes. First, those cases due to specific causes. Lesions in this group most frequently result from gonorrheal infection. Other conditions occuring less frequently are those due to tuberculosis, syphilis, actinomycosis and the trichomonas. The second class is comprised of cases non-specific in character, as infections in nulliparae, women who have borne children, and virgins. According to some authors, except in the case of virgins, many of these cases are in reality residual effects of a gonorrhea in which the viruience of the infecting strain is too low to leave the stigmata of Bartholinitis, involvement of Skene's glands and the appendages. Consequently these cases are all smear negative except for the secondary invading organism. Included in this second class are the non-specific infections where the invading organism gains access to a cervix lacerated in labor, traumatized in abortion, or one which has undergone excessive instrumentation.

Graves states that the process of gonorrheal infection of the endocervical mucous membrane simulates that of Skene's and Bartholin's glands in that the infection occurs in the ducts of the glands. Later a mixed infection of other organisms takes place gradually to the exclusion of the gonococcus. The irritation of the infection stimulates the mucous cells to a hypersecretion so that mucopurulent material is continually poured out into the cervical canal, thus producing the constant leukorrhea so characteristic of the disease. In some glands the inflammatory process may cause a closure of the duct. The gland continuing to secrete without an outlet and becoming a retention cyst. This process also takes place in all chronic inflamations of the cervix. These Nabothian cysts are filled with a clear mucus or a cloudy

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Delivered at June Meeting of North East Miss. 13 County Medical Society, June 20th, 1933 Greenwood Springs.

muco-pus, if the gland is infected.

Non-specific infections in nulliparae show essentially the same pathology grossly, a smear being the only means of differentiating except in cases where stigmata of gonorrhea are present.

The pathology of non-specific endocervicitis as a result of lacerations from childbirth, trauma from abortion, and excessive instrumentation presents gradations from a cervix relatively normal in size to one with general enlargement. Eversion and erosion are frequently present with elongation and irregularity of one or both lips.

Leukorrhea is the most consistent finding in a large majority of cases. The character of the discharge ranges all the way from the mucoid type through muco-pus to a thick cream-like material. When gonococci are still present in the later stages, the discharge is usually thicker and more abundant. It varies in amount from a scanty state which is at times hardly noticeable to one so profuse that several pads a day are necessary. At intervals there is an increase or decrease of the flow. Many cases will have no other complaint. Backache, usually sacral in character, is, however, a more or less frequent symptom. In some cases with a thin scanty discharge it is the outstanding symptom. Irritation, pruritus, and other complaints of local sensation are dependent upon the character of the discharge and the hygienic measures used by the patient.

Due to resistance to treatment, many long standing cases especially in highstrung neurotic individuals develop a symptom complex which is neuresthenic in type. Graves states that endocervicitis must be regarded as one of the most important factors in the genital neuroses. Malaise is another symptom encountered very often. The patient will say that she feels tired all the time, has no vitality and is unable to carry out her household duties as formerly.

In the diagnosis of chronic endocervicitis a thorough history and complete physical examination is essential just as in any other disease. The patient is carefully examined bimanually, the cervix inspected by the use of a speculum as to appearance, size, consistency, presence of eversion, erosion or laceration with smears being taken from the cervix and urethra. Pathology in the appendages is frequently present in cases of gonorrheal origin. Where laceration is the etiological factor concomitant pathology as lacerated perineum with rectocele and cystocele and displacements of the uterus is of a very frequent occurrence. In nulliparae when there has been no specific infection additional pathology is not so frequent.

Before making a diagnosis of chronic endocervicitis it is necessary to rule out other conditions causing leukorrhea. The most important of these are as follows: Carcinoma of the cervix and uterus, chronic endometritis, vaginal leukorrhea due to senile atrophy and trichomonas vaginalis vaginitis, foreign bodies as soft rubber pessaries and tampons, myomatous polyps undergoing degeneration and presenting at the cervix, submucous fibroids, chronic puerpural sepsis, pyosalpinx and in some rare instances the non-bacterial hypersecretion of the endocervical glands that sometimes occurs in virgins and is very difficult to account for.

In the treatment of endocervicitis, conservative measures are indicated until it is clearly seen that with their continued use little or no progress is being made. Little stress will be put on the type of case of more or less recent origin or those longstanding which when put on a definite routine of therapy clear up within a reasonable length of time. Our chief concern is with the case which after a logical schedule of local medication shows little or no response. I will mention a definite and reasonable routine of treatment for which I claim no originality for prmiary use in chronic gonorrheal endocervicitis and chronic non-specific endocervicitis. After eliminating pathology higher in the genital tract smears are examined and are to be repeated at intervals during the course of treatment in order to judge fully the progress of the case. The cervix is examined for patency by passing a No. 5 Hegar dilator. This will usually go in very easily; however, in some instances sedation of some kind and in rarer instances a light anesthesia is necessary. All excess secretion is removed from the cervical canal by first introducing an applicator dipped in a saturated solution of sodium bicarbonate. A dry pledget is next used after which all excess secretion is removed from the vagina. An applicator dipped in 20 percent Argyrol is then applied to the cervical canal. The cervix and vaginal vault is painted with a like applicator. Following this a tampon, the tip of which has been dipped in 20 per cent argyrol is introduced. This is left in place 24 hours and a 2 quart douche of normal saline is taken upon its removal. This treatment is repeated every other day. Any number of drugs may be used in place of the argyrol, such as 20 per cent mercurochrome as advocated by Brady, protargol and so forth. If no progress is noted after several treatments, a 2 to 10 per cent solution of silver nitrate is used instead of the argyrol and repeated one to two times a week. After this method or any other routine of local medication is given a fair trial then it will be necessary to resort to one of the following procedures: Medical Diathermy, Cauterization either with the electric cautery or the surgical diathermy unit and other procedures which can be done with this unit and lastly operative treatment.

Good results from the use of medical diathermy in longstanding cases are reported in many instances. According to Martzloff currents from .5 to one ampere in 10 minute treatments are used every 3 to 5 days 6 to 8 treatments being the average necessary to obtain a cure. Medical diathermy used by workers familiar with the technique and contra-indications is therefore a valuable therapeutic agent in certain types of cases and especially where the gonococcus is still present.

Cauterization performed properly will clear up a good percentage of cases that are otherwise intractable to treatment. The main objection to this method in the past being the formation of excessive scar tissue. With the advent of the electric cautery this hazard was lessened to a great extent and excellent results have been obtained. Although even with this excessive scarring often resulted from its blade of red heat penetrating deeper into the tissues than was originally intended. Now with the development and widespread use of the vacuum tube high frequency unit popularly known as the radio knife, scarring is reduced to a minimum when used correctly. Its use in virgins, nulliparae and other cases of childbearing age is particularly applicable. The method of application depends upon the pathology present. In cases where the cervix is enlarged more or less extensively and Nabothian cysts are present, after cauterization of the cervical canal proper, it is often advisable to perform a puncture cauterization, at times completely encircling the cervix with these small punctures. The contents of the cysts ooze through the puncture openings immediately. In some cases linear cauterization may suffice either after one or several treatments. In this type case all of the work may be done in the office. Often excellent results are obtained by decoring the cervical canal with the radio knife. Such cases were formerly either cauterized so extensively that excessive scarring resulted or were subjected to a Sturmdorf operation. When a Sturmdorf is considered advisable in order to remove the gland-bearing area of the cervix, it is a simple procedure to core this out with surgical diathermy, bleeding being controlled with an iodoform gauze pack, Beck's paste tampon, and rarely a suture or two.

Martzloff writes in discussing the operative treatment that any one of three operations are rational procedures in endocervicitis without cervical laceration, namely: (1) high amputation of the cervix, (2) tracheoplastic operation of Schroeder, (3) Sturmdorf's operation, and of these he mentions the Sturmdorf as most satisfactory.

The treatment of endocervicitis resulting from trauma at childbirth and abortion is practically the same as given above. Local medication is applied first, failing this cauterization and the use of surgical diathermy, and lastly operative treatment.

SUMMARY

1. Chronic endocervicitis is too frequently treated in a hit or miss fashion.
2. Correct diagnosis with the elimination of pathology higher in the genital tract is essential.
3. Practically all cases should receive an efficient course of local medication before resorting to other means.
4. Surgical diathermy whether used as a simple linear cauterization, puncture cauterization, decoring or conization of the cervix yields excellent results in the majority of cases.
5. In some instances partial trachelectomy or trachelorraphy will have to be done.

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Acute Appendicitis

BY R. B. WHITE, M.D.
Jackson, Tenn.

The medical literature is replete with articles on appendicitis, but apparently the last word has not been said in regard to its management. Statistics show that the death rate from acute appendicitis is on the increase. It has increased 40 percent per 100,000 population since 1919. In other words, one patient dies every 25 minutes in this country from acute appendicitis. Guerry has estimated that in the United States the mortaliy rate of acute appendicitis almost equals the combined mortality from intestinal obstruction, gastric and duodenal ulcer, and gall stones. The European countries have a much lower rate, it being essentially one-half of that of the United States. With these disconcerting facts before us, we are naturally concerned in determining what factors are responsible for these unnecessarily high figures. Various explanations have been offered, notably among these being delay in operative treatment, the promiscuous administration of cathartics, untimely and unsuitable operations in late cases, and lastly, more patients with appendicitis are being operated by physicians, who, though legally qualified, are not trained to do major surgery. I will discuss these various factors separately and more in detail.

That delay in the institution of operative treatment is the most important single factor in the present high mortality rate, is attested by the fact that in the cases operated on before the appendix has ruptured, there is a risk of 1 percent or less, whereas in the cases operated on after rupture has occurred, the mortality rate immediately jumps to 20 percent or more. Many authors have reported large numbers of cases from hospitals over the country, and have given some very convincing figures. In Finney's series there were 1129 cases of acute purulent or gangrenous appendicitis, with 16 deaths, a mortality rate of 1.42 percent. In the abscess group, there were 20 deaths among 438 cases, a death rate of 4.5 percent; whereas, in 240 cases of ruptured appendices with peritonitis, there was a mortality rate of 22 percent. Dixon, of the Mayo Clinic, reviewed 523 cases, 437 of which were operated on before rupture occurred, without a single death. Against this there were 38 cases ruptured, with localized abscess, in which extra-peritoneal drainage was done, with a death rate of 8 percent, and 48 cases of ruptured appendices and associated spreading peritonitis, with 10.5 percent mortality. Christopher and Jennings studied 1138 cases of acute appendicitis that were operated on at the Evanston Hospital. Of this number there were 955 non-perforative cases with a mortality of 1.78 percent. The remaining 183 cases were perforated, with a fatality of 16.3 percent. Tasche and Spano reviewed 361 cases of acute appendicitis, dividing them into four groups: (1) Acute suppurative appendicitis, numbering 72 cases, with one death, a mortality of 1.4 percent, (2) Acute appendicitis with local peritonitis, with 2.5 percent mortality, (3) Acute appendicitis with abscess, with a fatality of 9.7 percent, (4) Acute appendicitis with diffuse peritonitis, with 38 percent mortality.

In 100 cases of acute appendicitis that I have personally operated on, there were 78 cases of non-perforated, suppurative and gangrenous appendicitis, without a single death; whereas, in 22 cases in which perforation had occurred, with localized or spreading peritonitis, there were three deaths, or a mortality of 13 percent. As one reviews these figures, one is forcibly impressed with the importance of early diagnosis and immediate institution of operative treatment. In spite of our constant effort to educate the public and to impress upon the profession the importance of early surgical intervention, we find that essentially one case in every five have already ruptured when they reach the surgeon. Many writers report even higher figures.

In Guerry's and Dudley's series, 48 percent of the cases had ruptured before admission to the hospital. Stillman reports an incidence of 45 percent, Gatch and Durham 78 percent, Beckman 66 percent, Ochsner, Gage and Gasside 78 percent. In my series 22 percent of the cases had ruptured prior to admission to the hospital. As we review these appalling figures, the question naturally arises in our minds, "What are the causes of this delay?" In many instances the patient fails to call the doctor early in the course of the disease. Much valuable time is sacrificed in trying out home remedies before the pyhsician is consulted. If the doctor is called early, he is at times satisfied in carrying out expectant treament, hoping to avoid an operation, a pernicious practice, though one which appeals to many patients. I might say here that there is no conseravtive or medical treatment for acute appedicitis in its early stage. As Finney so aptly put it: "The time to operate is as soon as the appendix can be reasonably suspected, that the use of an ice cap to scatter the trouble too often does just that, and the only safe appendix is one in a bottle." Many times the patient refuses operation even though the physician has advised it. No doubt many of you have on repeated occasion seen cases of acute appendicitis in which you have insisted on immediate operation, only to have the patient refuse to consent to it, and you could only stand by and see an abscess or spreading peritonitis develop. In a certain number of cases of acute appendicitis, the diagnosis is difficult. In patients who have abdominal complaints of obscure nature, the physician should be alert to the possibility of appendicitis, even though typical signs and symptoms do not present themselves. The abscence of such guideposts are responsible for delay in many instances.

The second important factor in the increasing mortality rate in acute appendicitis is the promiscuous administration of cathartics to patients with abdominal pain. Usually, the first thought in the mind of the layman is to give cathartics in any disorder, and especially those referable to the digestive tract. In the reported series in which the author has attempted to make an estimate of the number of cases of acute appendicitis that received purgation prior to their admission to the hospital, show some very interesting figures. In Finney's series, in which a definite statement regarding the administration of cathartics was elicited, there were in the unruptured group 40.5 percent, in the ruptured with abscess 60.5 percent, and in the ruptured with peritonitis 61.5 percent. Of the deaths in the unruptured group 20 percent had cathartics, of the abscess and peritonitis groups 83 percent and 73 percent respectively, had cathartics. In the 22 percent ruptured cases of my series, 60 percent had taken laxatives. All of the patients who died had been given drastic purgatives. All ruptured cases cannot be attributed to the use of cathartics, yet there is every reason to believe that they are predisposing factors in many instances.

The third factor in the high mortality rate of acute appendicitis are the untimely and unsuitable operation in the late or neglected cases. I am thoroughly convinced that those cases who are referred to the surgeon late, and in which there is evidence of rupture with localizing or spreading peritonitis, operation should be deferred and conservative treatment instituted. After an interval of one or two weeks, extra-peritoneal drainage can be carried out with a marked degree of safety. In my series, 40 per cent of the perforated cases with localizing and spreading peritonitis, operation was deferred. They were all operated on following conservative treatment, without a fatality. I am positive that the mortality was reduced in this group from one-third to one-half what it would have been had immediate operation been done. This deduction is based on a comparison of the mortality rate in this series to a similar one in which all cases were operated on immediateely, regardless of the time that had elapsed since the onset of the attack and the degree of peritoneal involvement. Guerry, in a series of 123 cases of acute diffuse peritonitis, in which operation was deferred, had a mortality of 1.6 per cent. In another group of acute diffuse peritonitis, which were operated upon immediately, there were seven deaths or 8.2 per cent mortality. Guerry states: "I am more firmly established today than ever before in belief that the secret of the mortality lies in the deferred operation as applicable to this particular group of cases. Deaver and Magoun in a review of 4588 appendectomies, believes that a decrease in the mortality rate from 10.5 per cent for the years 1901 to 1905, inclusive, to 4.2 per cent for the years 1915 to 1919, inclusive, was due to the institution of conservative treatment in the proper cases.

I wish to say a few words here in regard to the conservative treatment. The patient is placed in the Fowler's position. Heat is applied to the abdomen in the form of hot compresses. Nothing is given by mouth. Fluids in large quantities, i. e., 3,000 to 4,000 cc, are administered by hyperdermoclysis or intravenous infusion. If the patient vomits, repeated gastric lavages are carried out. Morphine is given in quantities necessary to keep the patient comfortable. No enemas are given, but glycerine suppositories and rectal tube are used as indicated to relieve gaseous distension. As emphasized by Oschner, Gage and Gasside, the "conservative" treatment is not a medical treatment, but surgical in every sense of the word. It is one which is difficult to employ properly and one which requires a great deal more surgical judgment than the so-called radical therapy.

As to the suitable operation in the late case, I might say that the most conservative procedure is the safest. I do not feel that the appendix should be removed unless it is easily accessible. In the majority of cases the appendix is difficult to expose and mobilize without undue trauma. In cases of localized abscess, extra-peritoneal drainage is carried out. It is my practice to make an incision well to the outer side of the mass, working down to the peritoneum. After the latter is exposed, the mass can be outlined by slipping the finger around and beneath it, thus determining clearly where to open the abscess with the least risk. After opening the abscess and evacuating the pus, the cavity is gently explored with the finger and one or more drains placed in it. The wound is then very loosely closed. In cases in which free pus is found on exploration, it is probably wiser to be contented with draining, excepting those instances in which the appendix is easily accesible.

With the aforementioned facts in mind, I reviewed a group of 100 cases of acute appendicitis admitted to our clinic. I included in this study only the definitely acute cases. The chronic, subacute, or so-called interval appendicitis was excluded. Of this series, 78 per cent of the cases were not ruptured on admission to the hospital; all had immediate operations without a fatality. 22 per cent were perforated with localizing or spreading peritonitis. In this group there were three deaths, a mortality of 13 per cent, or a death rate for the entire series of 3 per cent. Operation was deferred in 40 per cent of the perforated group, and after a period of conservative treatment, extra-peritoneal was done without a death.

All of the fatal cases had been purged. The mortality rate in this series compares favorably with that reported in the literature, which varies from 1.5 percent to 8 percent, or an average of 5 percent. The 13 percent death rate for the ruptured group is decidedly lower than comparable groups which averaged 20 percent. I contribute this lower rate to the fact that we defer operation in the late cases and institute conservative treatment, to be followed later by simple drainage.

In analyzing the symptoms of these cases, I find that the most characteristic manifestations were pain, tenderness, rigidity, nausea and vomiting, increased pulse rate, temperature, and leukocytosis. The most valuable symptom, and the one on which I rely principally in making a diagnosis, is pain. In essentially all cases in which there is a history of pain originating in the epigastrium or umbilical region, later shifting into the right lower quadrant, and associated with tenderness and rigidity, one is relatively safe in making a diagnosis of appendicitis. In about 80 percent of the cases there will be associated nausea and vomiting, increased pulse rate, moderate temperature, and leukocytosis. I attach so much importance to the type, site of, and the radiation of pain, that if it does not conform to the syndrome outlined above, I am loath to make a diagnosis of appendicitis, even though many other signs are present. I feel that we rely too much on the leukocyte count. It is merely corroboration, and should not affect a diagnosis to too great an extent. After all, the history and physical findings are of most aid in the diagnosis of acute appendicitis.

In conclusion, I wish to emphasize the following points:

1. If the present high mortality rate of acute appendicitis is to be reduced, early diagnosis and immediate operative treatment must be instituted in all cases.

2. In the early case, the first one on the scene assumes the greater responsibility. The physician, in discharging his duties to the best interest of the patient, should insist on early operation, explain the danger of delay and the fallacy of expectant treatment. He should place the patient in the hands of a competent surgeon at the earliest possible moment.

3. A campaign to educate the public in regard to the early signs of appendicitis, the danger of administering cathartics, and delay in consulting their physician in abdominal complaints, should be carried out with the same enthusiasm as that is being done with cancer, tuberculosis, and other disease.

4. Appendicitis with localizing or spreading peritonitis offers a different problem from the early or uncomplicated case. These cases tax the best judgment of the surgeon. It is safer to defer operation and to institute conservative treatment, to be followed later by simple drainage.

A New Antimalarial*

BY F. M. ACREE, B. S., M.D., F.A.C.P.

Malaria is a problem that all who practice medicine in this section has to face. In the majority of cases malaria will be cured by the giving of adequate quinine. Investigation and clinical experience has shown that primary infections in otherwise healthful individuals are easily cured if property and promptly treated. But when quinine becomes inadequate then our problem becomes acute.

Wm. M. James, M.D., in an address before the Medical Association of the Isthmian Canal Zone (1) makes the following statements regarding malaria, "Uncomplicated Tertian and Quartan infections rarely threaten life; and however, uncomfortable and temporarily ill they make the patient, are easily controlled by even small doses of quinine. Even the heaviest infections in these two types are not comparable in numerical intensity with the number of parasites found in severe and pernicious Estivo-Autumnal Malaria. "Severe Estivo-Autumnal Malaria is always dangerous until the infection is controlled." Further along in this same address he states that, "It has been rather definitely shown by Warrington Yorke and S. P. James, that the size of the dose and the amount of quinine given during the pebrile period, of severe and pernicious Estivo-Autuminal Malaria, do not have any particular effect." For this reason, and because quinine sometimes has a powerfully depressive action on the heart, numerous attempts have been made to find a substitute for quinine, in the treatment for malaria. Many and various drugs have been used, only to be discarded. Salvarsan and Methelyne Blue were used, and discarded, and recently Plasmodim was brought forward and proved to be another weapon against Malaria, but its usefullness is limited to its action on the sexual forms of the parasite.

W. Cordes, M. D., and T. de la Torre, M.D. in an article, "First Experience with Atabrine, a new Anti-Malaricum" (2) states that, "Certain requirements are fundamental for a remedy which is to be recommended and adopted for general use in the treatment of Malaria. Its action and the fever symptoms must be quick and reliable; it must prove effecacious with the prevention of relapses; its dosage should be simple and its administration easy and without discomfort; its toxicity must be low, so that it may be taken without constant medical supervision. The conditions are fulfilled, in our opinion, by the new product "Atabrine." They draw their conclusions from a study of 121 cases treated by them, and state "we have not seen one failure in 121 cases." One hundred and fourteen cases were Estivo-Autumnal, six of Tertian, and one of Quartan. Nine of the cases had hemoglobinuria, and four presented the Classical picture of black-water fever. One had suffered from more or less protracted Estivo-Autumnal malarial infection, and the onset of their hemoglobinuria could definitely be linked up with the intake of a dose of quinine. Atabrine was given in these cases only when parasites were present, or reappeared in the blood. In all instances the blood became free of parasites after giving Atabrine and in no instance did Atabrine provoke another attack of hemoglobinuria.

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*Read before the Issaquena, Sharkey, Warren County Medical Society, April 11, 1933.

E. Thonnard Meuman, M.D. and H. A. Ledoux, have reported seventy-five cases treated with Atabrine at Santa Marta, Columbia (3) and summarize their conclusions by stating, "We believe that the results obtained with Atebrine, in our 75 cases of malarial infection, justify its application on a large scale." Of the 75 cases they treated 59 were Estivo-Autumnal, 10 were Tertian, and six mixed (Estivo-Autumnal and Tertian) infections, Six were primary infections, six were old chronic infections, and twenty-one were highly toxic.

Bruce M. Phelps, M.D. and Walther Jantzen, M.D. in a report of their "Clinical Experiences with Atebrine," at Pverto Costilla, Honduras, (4) summarize their experiences in the following conclusions, "Atabrine in daily doses of 0.3 gram for six days is an efficient therapeutic agent in clearing the blood of the vegetative forms of Tertian or Estivo-Autumnal malaria. It successfully and promptly relieves the symptoms of malaria. Its toxicity is low with a wide margin of safety between the effective therapeutic dose and the toxic dose. Treatment with Atabrine has decided advantages over that with quinine—there is no tinnitus—digestive organs are not upset. Hemoglobinuria does not seem to be provoked by Atabrine, nor does there seem to be any contra-indication to giving Atabrine to cases which have developed hemoglobinuria. It is our impression that relapses do not occur."

Atabrine is a powder of an intense yellow color, soluble in water, neutral reaction, and synthetically composed by, Boyer-Meister Lucius, Germany (I. G. Farbenindustrie) and marketed in compressed tablets of 0.1 gram of Atabrine. It was first shown to be efficacious in bird malaria and in natural and induced malarial infections in man, in Europe.

Case Report: Mr. J. P. K., white male aged 38, farmer, was first seen by me at 3 P. M. on June 27, 1932 at his home four miles from Greenville. Chief complaint, chill and fever-general aching all over body, headache, vomiting. The chill had occurred about six hours previously and was followed by the vomiting of yellowish material along with the food he ate for breakfast, and fever.

Patient's history: Usual childhood diseases. No other serious illness, no operations, no serious accidents or injuries. Attacks of chills and fever every summer for past three or four years, controlled by quinine.

Physical Examination: Patient is well developed and nourished, while small, lying in bed apparently acutely ill. Face flushed and shows pain, skin hot and dry. Eyes congested. Tongue furred, teeth dirty. Lungs clear, heart action rapid but regular and no murmurs heard. Abdomen flat, slight rigidity over entire abdomen, especially over stomach, no masses felt. Liver and spleen not felt. Genitalia negative. Extremities negative. Reflexes a bit exaggerated. Temperature 105, pulse 100, respiration 20. A blood smear was made, a speciman of urine obtained, a diagnosis of Malaria was made and calomel and quinine ordered. Examination of smear showed ring from parasites in large numbers. Urinalysis essentially negative.

He was next seen at 11 A. M. on June 28, 1932, at which time temperature was 104, while pulse was still 100. He had been able to return the calomel and purge and had had good results, but vomited every dose of quinine taken, as well as some water. He was given seven and one-half grains of Quinine Dihydrochloride, in twenty c.c. distilled saline intravenously at this time, and at 8 P. M. his temperature was 100 and pulse 84. He was sweating profusely and felt hungry. He was given five grains of quinine by mouth every four hours, which he retained and at 9 A. M., June 29, 1932 temperature was normal. He was given another injection of quinine by vein and was instructed to continue the quinine by mouth every four hours. On June 30, 1932, his general condition was normal except for weakness.

Subsequently he had a severe chill on July 21st. and 28th also August 13th, and 27th, 1932. He had been taking quinine all this time, and received quinine by vein after each chill. On August 2nd, there was added Plasmochin to his treatment but in spite of this he had chills and fever on August 12th and 27th. On September 15th he was given Atabrine, one tablet tid for five days. He has had no more chills. On February 17, 1933, the red cell count was four million seven hundred thousand, and no malarial parasites were found.

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(1) United Fruit Co., Medical Dept., 20th annual report, page 34.

(2) United Fruit Company, Medical Dept. 20th annual report, page 51.

(3) United Fruit Company, Medical Dept., 20th annual report, page 57.

(4) United Fruit Company, Medical Dept., 20th annual report, page 69.

Modern Conceptions of Pellagra

BY S. T. RUCKER, M.D., and E. R. CLARDY, M.D.
Memphis, Tenn.

Pellagra is of perennial interest to physicians of the South, and like the poor it is with us always. During economic stress and limited diet for the poor the number affected usually increases.

Pellagra is derived from a latin word meaning a "rough skin" and so named because of the characteristic skin lesions. The first authentic appearance of the disease was in southern Spain in 1735, during which time a close observing Spaniard, Gasper Casal, recorded some symptoms that fit the description of the present disease. In the year 1771 the disease assumed the proportion of an epidemic in southern Europe and at that time was given the name of Pellagra by an Italian named Frapoli. The earliest cases in the United States were reported by Dr. John P. Gray of Utica, New York and Dr. Taylor, of Somerville, Mass., in the year 1835. In 1889, Dr. Bemis, of New Orleans, reported some cases.

Adequate appreciation of the extent of the prevlence of pellagra in the United States was not awakened until the present century. In 1902 Dr. H. F. Harris, of Georgia, reported some cases. By 1908 the disease was becoming so alarming in the South that Doctors Babcock and Watson, of Columbia, S. C., went to Italy to study the disease. From 1908 to 1918 it was more or less epidemic in the southern states and in 1917 170,000 cases were reported.

ETIOLOGY

There has been much controversy and difference of opinion concerning the cause of pellagra. Marzari, more than a century ago, expressed the belief that pellagra resulted from the excessive use of maize as a food. Italian investigators later accepted the view that it was caused by eating moldy maize. Two other theories have been advanced to account for its etiology that are worthy of mention; one, that it is caused by an infectious organism; and the other that it is in some way related to a faulty diet lacking in vitamins B and G. The late Joseph Goldberger, of the United States Public Health Service, was an advocate of the faulty diet theory, and did some outstanding research work trying to prove his theory. He found that those fed on low-protein and high carbohydrate diet, with little fruit and vegetables, developed the disease.

In the last experiments of Goldberger and Wheeler, they fed dogs on a diet high in carbohydrates and low in proteins, with no fresh vegetables, milk or butter, and produced a disease that was similar to pellagra. The dogs were cured by feeding them food rich in vitamin G, which they called P.P. or pellagra preventive, factor. This vitamin G is said to be found in fresh milk, butter, fresh meats, vegetables and brewers' yeast.

The Thompson-McFadden Commission found, in their investigation, the disease to be more prevalent in certain sections where surface privies were in general use. After a most scientific and painstaking series of investigations, they came to the conclusion that "no specific cause of pellagra has been recognized, but in all probability it was a specific infectious disease communicable from person to person by means at present unknown."

In a paper read and published in the St. Louis Medical Review, 1911, Dr. S. T. Rucker, Memphis, Tenn., advanced the theory "that pellagra was a gastro-intestinal disease, infectious in character, and that the skin lesions and nervous symptoms were secondary and due to the toxic infection." Dr. John L. Jelks, of Memphis, also holds to the infection theory. English investigators believe that the disease is of an infectious nature.

In 1923 Jobling and Arnold found a type of hyphomycetes (fungi-imperfecti) in the excreta of pellagra patients, and found that a photodynamic substance was produced that caused a hypersensitiveness to sunlight. This is an interesting finding, as many observers have noticed that the skin of pellagra patients is hypersensitive to sunlight, causing the skin lesions to appear and aggravating those that are present. None of these etiological theories have been proved and few students of the subject will venture the conclsion that the etiology of pellagra is solved. Medical opinion in the South is still divided, though the weight of evidence at present available supports the theory that pellagra is caused by a dietary deficiency.

It is somewhat surprising that more consideration has not been given the photodynamic factor so prominent in pellagra. Pellagra is essentially a tropical and sub-tropical disease. Endemic and at times epidemic in Egypt, southern Europe and southern United States, only sporadic cases (probably imported) are found in northern Europe and northern United States. Why is a pellagra patient hypersensitive to sunlight? The disease begins in April or May, with symptoms most severe and active during summer. The symptoms will subside or disappear during cold weather of autumn and winter, then re-appear the following spring and summer. There is evidence that a hot climate, dietary deficiency and an infectious organism all play a part in causing the syndrome called pellagra.

PATHOLOGY

In reviewing the literature on this important aspect of the disease, we find work seems to be limited or neglected. The location of the well known lesions are:

(1) The skin.
(2) The alimentary canal.
(3) The nervous system.

(1) The lesions of the skin are superficial and first appear as an erythema with some edema. Later, blebs may form which are filled with serum at first, then become pustular. In chronic cases the skin shows atrophy. Desquamation is common and in later stages there is a brown pigmentation.

(2) Superficial ulceration of buccal surface of mouth is common. The red, clean "beefsteak tongue" is most always present. According to Tuczek and Niles, the intestines show atrophy, with some ulceration of the mucosa of the large intestines. Laboratory findings are:

(a) R. B. C. count around 3,000,000.
Hemoglobin 65 to 70%, indicating anemia.
(b) Achlorhydia
(c) Spinal fluid does not show any material change.

(3) The nervous system, in some cases, shows degeneration of the posterior white columns and a lateral sclerosis. Atrophy of the brain has been noted in chronic pellagrins with a psychosis.

SYMPTOMS

In early and active stage of pellagra the skin lesion comes early and first looks like a sunburn. Later, in severe cases, blebs and pustules may form. As the disease progresses and becomes more or less chronic the skin becomes roughened and scaly. The back of the hands (rough knuckles) is a common site for this lesion, though often it extends to the elbow. The face and neck may also have these rough, scaly areas. A symptom often noticed in our patients is a dermatitis ring around the anus, which has a scalded appearance. Diarrhea is an early and frequent symptom. Later it may alternate with constipation. There is a foul odor from bowel movement of pellagra patients that is characteristic and found in no other disease. Sore mouth with buccal ulcers will be found and the tongue will be red and clean, as a rule. Mental symptoms come early. At first they are mild and may be unnoticed, or mistaken for a benign nervous disorder neurasthenic in type. Later the mental symptoms become more severe, and may be mistaken for a depressed type of melancholia.

Pellagra may be easily recognized when all the classic symptoms are present, but it is difficult to diagnose in the early and late stages when only a mild nervous or severe mental symptoms may mask other symptoms that can be found on close observation. The majority of pellagra patients referred to us come for some nervous or mental disorder.

TREATMENT

In our experience the treatment that promises most is dietary, with high protein and low carbohydrate intake, and food that is rich in vitamins A, B and G. These foods are milk, eggs, lean meats, vegetables and fruits; brewers' yeast, rich in vitamin B, may be added to this diet.

Bismuth and paregoric is recommended for the diarrhea. We have had good results in controlling the diarrhea by giving lactos in buttermilk three times a day. Arsenic in some form has been largely used but, in our hands, it has been disappointing. Recently English and Egyptian physicians have claimed sodium-thiosulphate to be a curative agent.

The prevention of pellagra is a most important consideration and we will close by quoting from an article by Wheeler and Sebrell (Journal American Medical Association, July 9, 1932): "The home surrounded by evidence of a good garden, a cow or two, a few pigs and some poultry may as well be passed up, for the chances are less than one in a thousand that pellagra will not be found. On the other hand, the home surrounded by last year's cotton patch will bear watching."

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Resolutions

With profound sorrow, we of the East Mississippi Medical Society record the death of one of our most earnest and zealous members, Dr. Clyde R. Stingily of Meridian, Miss.

In recognition of the long and untiring services of Dr. Clyde R. Stingily in the field of pathology, bacteriology and X-Ray work, we of the East Mississippi Medical Society wish to express our sense of personal loss in our Society. From the earliest beginnings of pathological, bacteriological and X-Ray work in the State of Mississippi, Dr. Stingily was one of the first, and has been identified with constructive research, educational and practical guidance for us all.

Dr. Clyde R. Stingily died June 24, 1933 at the age of 54 years. Dr. Stingily was born at Pelahatchee, Miss., the son of Mr. and Mrs. J. M. Stingily. He was a graduate of Pelahatchee High School, Roanoke College, Roanoke, Va., and received his medical degree from Vanderbilt University in 1901. He then located in Pelahatchee, Miss., where he did general practice for several years. Afterward, Dr. Stingily took special post-graduate work in pathology and bacteriology at Chicago Post-Graduate College, Johns Hopkins, and New York State Laboratories. Later, he was in charge of the Mississippi State Hygienic Laboratories from 1910 to 1922 after which, from 1922 to 1928, he was in charge of the pathological and bacteriological laboratories of the Jackson Infirmary. Dr. Stingily with his family moved to Meridian in 1928 where he opened what is known as The Stingily Laboratories, of which he was Chief Medical Director until the time of his death. He was a member of te East Mississippi Medical Society, Mississippi State Medical Association, Fellow of the American Medical Association, and Southern Medical Association. He was also a member of the Medical and Surgical Clinic of Meridian, Miss.

Dr. Stingily is survived by his wife, Mrs. Bessie Stingily, one son, Dr. Karl O. Stingily, and two daughters, Misses Helen and Bessie Clyde Stingily. He was affiliated with the Baptist Church.

We know that it was an honor to have been associated with a man of Dr. Stingily's caliber, and in the loss of Dr. Stingily we feel that every member of the East Mississippi Medical Society, as well as the state-at-large, have lost a helpmate not only socially, but professionally.

RESOLVED THAT a copy of these resolutions be spread upon the minutes of this Society and that copies be sent to his family, to the Secretary of the Mississippi Medical Association, to the Mississippi Editor of the New Orleans Medical and Surgical Journal, and to the press.

Respectfully submitted.

T. D. BOURDEAUX
F. G. RILEY
H. L. ARNOLD

Public Health News

At the meeting of the State Board of Health on June 23 and 24, the following took the written examinations and were granted license to practice medicine in Mississippi:

Dr. Robert E. Blount, Bassfield, Miss.; Dr. Julia D. Brown, (col.), Washington, D. C.; Dr. Ralph B. Davis, McComb, Miss.; Dr. Hansel E. Edmondson, Edwards, Miss.; Dr. Floyd L. McCollum, Lauderdale, Miss.; Dr. Bernard Patrick, Booneville, Miss.; Dr. Cole D. Pittman, Sweatman, Miss.; Dr. Henry S. Provine, Clinton, Miss.; Dr. Ray H. Briggs, Jackson, Miss.; Dr. Edwin M. Butler, McComb, Miss.; Dr. James G. Dees, Philadelphia, Miss.; Dr. Thomas F. Frist, Meridian, Miss.; Dr. Earl L. Laird, Union, Miss.; Dr. Luther L. McDougal, Jr., Booneville, Miss.; Dr. William N. Payne, Lauderdale, Miss.; Dr. Ray L. Rhymes, Jr., Macon, Miss.; Dr. Eric P. Robbins, Sanatorium, Miss.; Dr. David H. Thornhill, Picayune, Miss.; Dr. Richard B. Warriner, Jr., Corinth, Miss.; Dr. John E. Windham, Hickory, Miss.; Dr. Benson B. Martin, Jr., Vicksburg, Miss.; Dr. Alston Callahan, Vicksburg, Miss.

Dr. Eugene V. Bramlett, Oxford, Miss., and Dr. Donald S. Hall, Vicksburg, Miss., took the examinations and successfully passed them, but their licenses will not be issued until they have completed interneship as the medical colleges they attended require interneship before diplomas are granted.

The following physicians were granted license to practice medicine in Mississippi at the last meeting of the State Board of Health. These physicians were admitted on the basis of reciprocity with other states:

Dr. William D. Anderson, Vicksburg, Miss.; Dr. William H. Brandon, Clarksdale, Miss.; Dr. A. Dabney Hurt, Corinth, Miss.; Dr. John V. James, Newton, Miss.; Dr. Norman Kelly, Jackson, Miss.; Dr. Wesley W. Lake, Pass Christian, Miss.; Dr. Oscar E. Ringold, Winona, Miss.; Dr. Thomas F .Wolford, Columbus, Miss.; Dr. Charles E. Holmes (col), Greenville, Miss.

Dr. Harry E. Handley and Miss Carolina R. Randolph of the Commonwealth Fund spent two weeks of June with the Mississippi State Board of Health.

Dr. Wm. F. Lamb, Kentucky State Board of Health; Dr. Charles H. Eller, Albuquerque, New Mexico; and Dr. M. T. Foster of Spartanburg, South Carolina, spent a week in Mississippi observing the program in the central organization and in the Pike and Holmes Counties Health Departments.

Of the physicians who were appointed in 1912, to serve as local registrars of birth and deaths, seventy-eight are still serving.

The death rates and the morbidity rates in the counties having full-time health departments are declining faster than the rates in the counties not having full-time service. There are several part-time health officers who are devoting a great deal of time to preventive medicine and it is said here to their credit that their work has been effective in reducing the case and death rates of preventable diseases in their counties.

Dr. J. T. Googe of Meridian has returned from Harvard University where he has just completed a years study in the School of Hygiene and Public Health.

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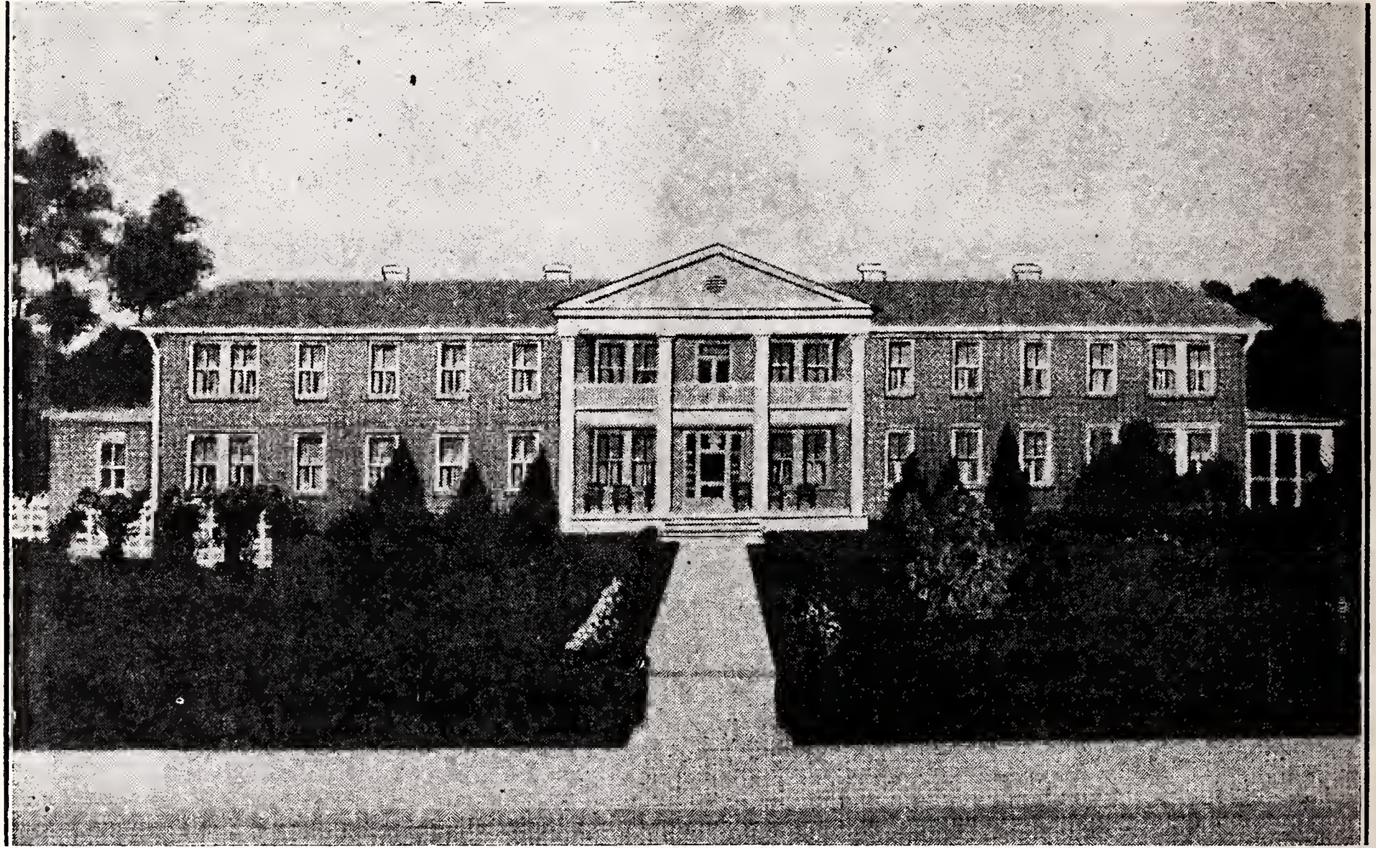

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THE MISSISSIPPI DOCTOR

VOL. 11. BOONEVILLE, MISSISSIPPI, SEPTEMBER, 1933 NO. 4

OF MEDICINE
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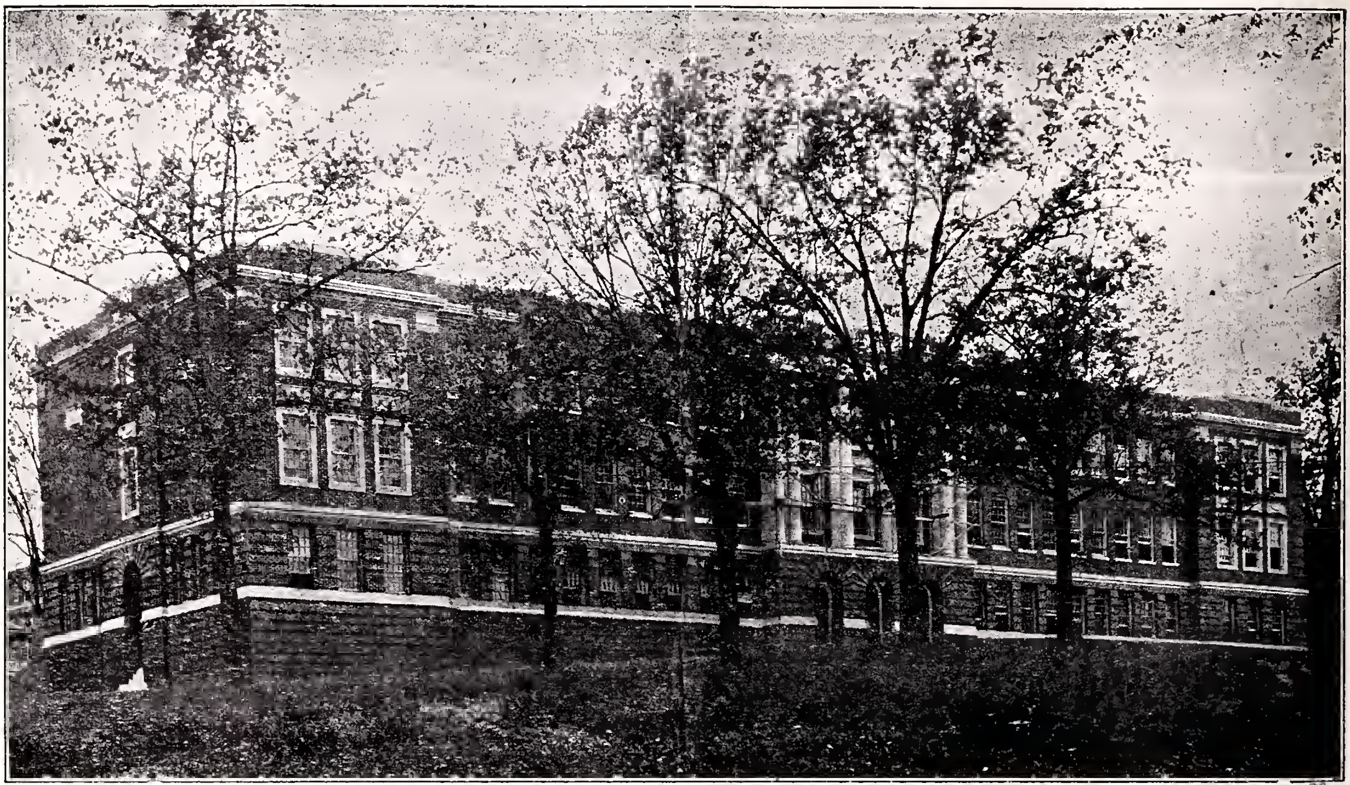
Give thy thoughts no tongue,
Nor any unproportion'd thought his act.
Be thou familiar, but by no means vulgar;
The friends thou hast, and their adoption tried,
Grapple them to thy soul with hoops of steel;
But do not dull thy palm with entertainment
Of each new-hatch'd unfledg'd comrade. Beware
Of entrance to a quarrel, but, being in,
Bear 't that th' opposed may beware of thee.
Give every man thine ear, but few thy voice;
Take each man's censure, but reserve thy judgment.
Costly thy habit as thy purse can buy,
But not express'd in fancy; rich, not gaudy;
For the apparel oft proclaims the man,
And they in France of the best rank and station
Are most select and generous, chief in that.
Neither a borrower, nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.
This above all: to thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man.

—SHAKESPEARE



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The college maintains one of the best and largest summer sessions in the state.

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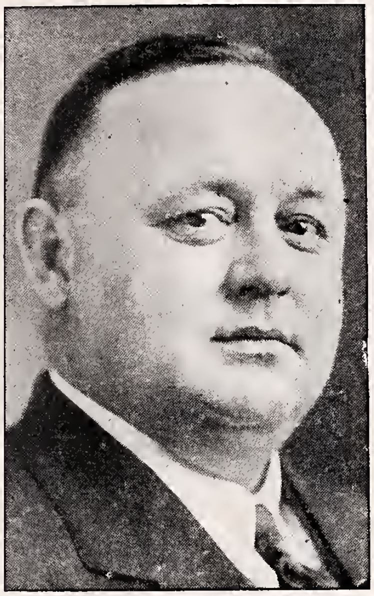
Program for North East Mississippi 13-County Medical Society



DR. F. L. McGAHEY

Meeting will be held at Calhoun City, in Baptist Church, Tuesday, September 19, at 1 P. M. Rev. R. B. Patterson will deliver the invocation, Hon. A. T. Patterson the address of welcome.

The essayists are Dr. R. B. Cunningham, "Banti's Disease"; Dr. J. A. Crisler, Jr., "The Decision for Surgery in Border Line Hyperthyroidism"; Dr. F. J. Underwood, "Some thoughts for our mutual benefit"; Dr. E. B. Burns, "A case of Normal Obstetrics out in the Country"; and Dr. H. M. Williams of Aberdeen, "Inguinal Hernia." There will be a banquet immediately following the scientific program.

Those Calhoun Boys will put on a meeting. They know how to do it. They know how to be clever. It is worth your while to go down to Old Calhoun and catch the spirit that emenates from its citizenry. Their atmosphere is charged with oratory and they hold out their right hand to welcome at any and all times.

Let us do honor to our splendid president by giving him the biggest crowd that this association has ever had at a meeting.

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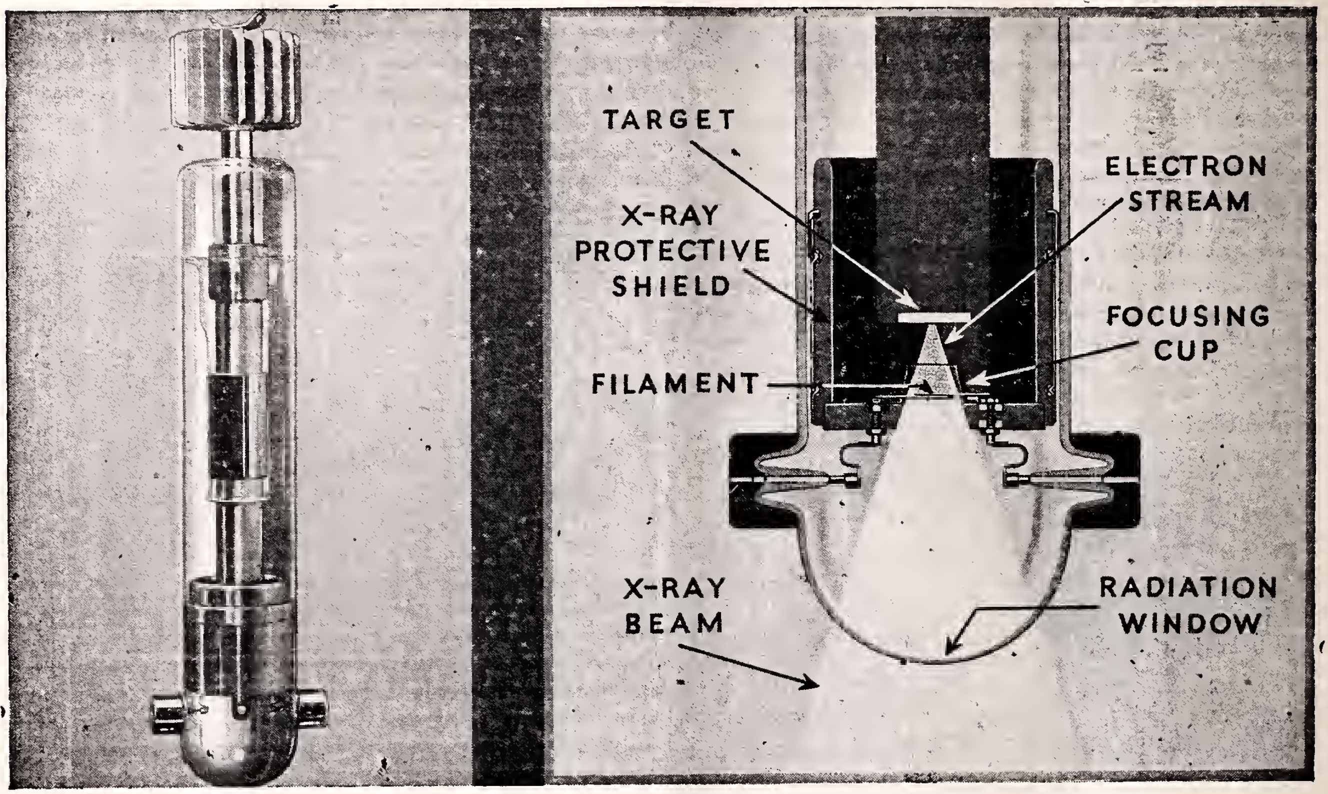

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—AND—

NORTH MISSISSIPPI MEDICAL SOCIETY

—AND—

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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We greatly appreciate the brand new ad from the Lynnhurst.

Some men have classified appendicitis thusly· acute, sub-acute, chronic and commercial.

You will read with great interest the thrilling story of the life and work of Dr. W. A. Evans by Dr. G. S. Bryan.

The profession of the Mid-South and the nation deeply regrets the loss of Dr. Bathurst, of Little Rock. He was an able teacher, a splendid writer, a successful practitioner. The nation owes him much for his contribution to organized medicine.

Make ready for the meeting at Calhoun City. If you don't go you will regret it. Those Calhoun-ians are going to put on something that you will remember and talk about for months to come. Let us show our active and wide awake president just how much we think of him.

You will read with interest the brief account of the life and work of the late Dr. Isaac McSwain of Paris, Tenn. He had strength of character. He was versatile. He was an organizer. The good he did will follow after him. He entered into the life of his people, the people he served. He had the heart and the mind of a real doctor. His type will ever be in demand in the medical profession.

We are glad to see Dr. Isidore Cohn promoted to Professor of Surgery down at Tulane. His teaching will be safe and sound. He has a practical mind. He knows how to apply surgical knowledge. He is a teacher that makes it stick.

Send us a brief account of an interesting case. Write something that is on your heart to say for the good of the profession. "It is not all of life to live" and it is not all of practice to prescribe pills. We must know the human organism and we must have interest in human affairs if we are to serve well.

The history of the progress of civilization is the history of outstanding personalities. The same is true of the history of the onward march of medicine. Dr. W. A. Evans is one of the outstanding personalities in the field of preventive medicine. He loves people. He enters into their joys and sympathies and pleasures and he sympathizes with them in their trials, tribulations and reverses. He understands the importance of knowing the human organism in all of his relations as well as knowing the habitat and behavior of the germ attacking him. This society feels very proud of Dr. Evans.

Mrs. Dan Williams is giving you a report on the work of the Auxiliary in its support of the Preventorium. This is a fine piece of work the auxiliary is doing. The preventorium is one of our most valuable institutions. It treats and teaches the little tots. They will not forget it. They also will become teachers and heralds of health tidings. The person who does not appreciate our preventorium just does not know what it is doing. Each member of the medical profession should visit it and we should all take a course at the Sanatorium, every practitioner especially. We need to learn to utilize the opportunities we have at hand.

Finally we have realized that we are in another world war, an economical war, the most serious the nations of the earth have yet known. The medical profession has been in the thick of the fight. No other profession has felt the fusillade from the woes of poverty as we have. The suffering multitude has begged for relief without one penny to offer to help defray expenses. Many of them are men who have been substantial and good pay, who are honest and upright, who have always paid well and been appreciative. It has been hard. The medical profession in general has done its part exceedingly well. The pinch of the conflict has been very trying on the wives of the profession. They are doing their part, they are economizing and they are resourceful. They are standing by full of hope and courage and inspiration. They can do more if they are organized. Truly the membership of the auxiliary should be multiplied this year.

The Mississippi State Medical Association has a committee on the community hospital. This committee has been at work more than two years. The accomplishments have not been what we had hoped so far. But the committee is not thinking of giving up. The rank and file of the profession is becoming informed as to the importance of the community hospital. Members of the legislature are falling in line. The majority are already sold to its value. Mississippi is taking the lead for the world on this proposition. The community hospital is the answer to the delivery of modern medical service to the masses at less cost to the individual and with more profit to the general practitioner, either in medicine or surgery. In the name of humanity this service must be delivered to the country folk. Economy is also demanding it. Social ethics is pleading for it. The community hospital plan will bring a little medical center in reach of every person in the United States. The delivery of this service to the people in the rural community and small town is the corner stone of a new social and economical structure. The small town and the rural community must have this new deal. Without them we can not live again and perpetuate a strong and a virile nation. Can you not see even through a cataract the value of the development of the community hospital, the value of hospital service in the small town? The medical profession and the masses must meet in the small town, the town of from two to ten thousand or in a place convenient for the distribution of this service. When you see this deal in all of its relation to our human economics, you must admit that it is the finest piece of economy that you have studied, it offers the greatest aid in solving our social problems, and in the name of humanity it is a piece of work that the Man of Galilee will smile upon with His blessings. It is the poorest economy in money and in human conservation to have to carry a man a hundred or two miles for the treatment of the every day diseases that are killing the greatest number. Long trips for the surgeon or the practitioner are not economical. It is more sensible for the man who works for one dollar a day to spend his time coming ten miles to a hospital than for the doctor who has spent much time and money and who cannot meet his expenses on less than twenty-five dollars a day. We have had too much centralization in this country. We must go back to the farm, back to the small town, must build new houses by the side of the road and new barns and new churches. We must produce what we eat and what we wear. We must make conditions more favorable for the production of human beings the greatest wealth of any nation. Our best human stock will not remain in the small town or rural community or will not return to them unless they can have better medical service than they have had in the past. The leaders of industry, statecraft and education must be replenished. Let us meet the challenge that comes to the medical profession in the new deal for medical service.

Mississippi is supporting five state charity hospitals. They have served well in the past. They are serving well now as far as they reach, but they are out of date. This system is obsolete. At one time we had only a half dozen surgeons in the state, but now you can get a good operation at almost any cross roads while you wait to have your tire changed. We are unable to maintain two systems. The community hospital system means better medical service to all the people at less cost to the individual. The state should supply funds to take care of the actual charity in the small hospital, the medical profession will do its part without charge. When the state pays for the actual charity in the small hospital it is making it possible for these hospitals to be operated so that the middle class can have medical service at home at less cost. This is the big thing in supporting the small hospital. The small hospital means increased medical and surgical efficiency for the rank and file in the medical profession which will be able to render eighty-five percent of the service. We can then let out seventy-five percent of the "specialists" we have, the rest will be real and they and the people will fare better. Every practitioner should study this problem. It is no trouble to win over a man who is mentally honest, and who has vision to this new deal for the masses.

DR. SEALE HARRIS
Gastro-intestinal and Nutritional Diseases
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THOMAS D. MOORE, M.D., F.A.C.S.
Memphis Eye, Ear, Nose and Throat Hospital Bldg.
1052 Madison Avenue
Memphis, Tennessee
Urology and Urologic Surgery

Editorial Symposium—Coronary Sclerosis

BY NEWTON S. STERN, M.D.
Memphis, Tenn.

The campaign against the communicable diseases and infant mortality have saved many lives. As a result more and more people are advancing into the decades when the degenerative diseases take their toll of these. Sclerosis of the coronary arteries is by far the most important.

The medical profession has been in the habit of thinking of chronic myocarditis and angina pectoris, and the more recently recognized coronary occlusion as three different diseases, whereas, in reality, they are not. They are only phases, or different developments of a single underlying process, hardening of the coronary arteries. The clinical manifestation depends on whether the process is diffuse or localized, slow or rapid. If the process is diffuse and slow, chronic myocarditis (so-called) develops. If localized and not too rapid, angina pectoris supervenes. If localized and rapid, leading to obstruction of the vessel, the artery becomes completely occluded. The similarity in symptoms of the two latter conditions are further evidences of their unity. The type of pain is exactly the same, either may be associated with reflex dyspnea, or with the symptoms of shock. The difference lies in the fact that the anoxemia of the muscle area involved in angina pectoris is temporary, while in coronary occlusion it is permanent.

As soon as physicians find the relationships that exist between these clinical conditions, many of the former difficulties in understanding the vagaries of degenerative heart disease disappear, and the clarity of mental processes will be followed at once by more accurate prognosis and more helpful treatment.

DR. E. C. ELLETT
DR. R. O. RYCHENER
1720 Exchange Building
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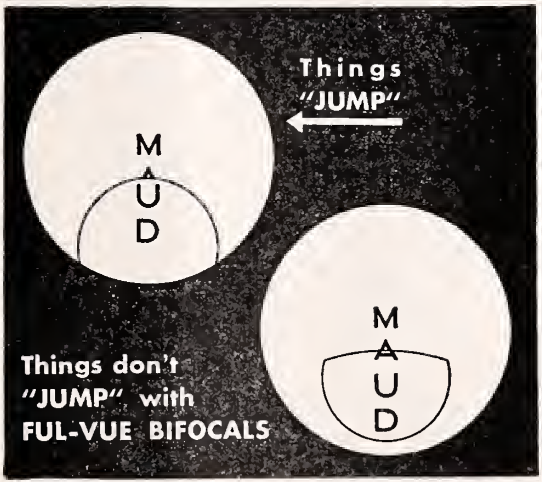

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Dr. George R. McSwain

You have heard, "Let George do it." George now has the responsibility on his shoulders. He is the worthy son of a worthy sire. He served for fifteen years as assistant secretary of West Tennessee Medical Association and is now the secretary full-fledged. He is a graduate of Vanderbilt 1914, and has taken post graduate work at Cleveland, Mayo Clinic, New York, Philadelphia, et cetera. He was admitted to the American College of Surgeons in 1929. He was in service in the World War for two years, over seas thirteen months, and as Captain received an honorable discharge at the close of the conflict.

He built the McSwain Clinic in 1928. We are told it is very modern and up to date and well equipped. He does mostly general surgery. He has two sons ready to enter Vanderbilt, one of which will study medicine. He has served as president of the Henry County Medical Society, the Tri-County Medical Society, as Vice-President of the Tennessee State Medical Association and on many important committees.

Dr. George R. McSwain is a dynamic personality. He possesses native ability, he has culture and refinement. He takes an active interest in human affairs. The West Tennessee Medical Association has rendered much good service. We believe that Dr. George will lead it on to a bigger and a broader service.

Dr. Potter Accepts Position

Dean Mull received a telegram from Doctor Wilbur F. Potter, of Georgetown University School of Medicine, in Washington, D. C. on Tuesday, August 22, accepting the position of Professor and Head of the Department of Physiology in the University of Mississippi School of Medicine. This completes the organization of the medical school for the coming session.

The medical school will open again in September with full classes, and a larger faculty than ever before in its history. Several new members have been added to the faculty. Each member of the faculty has been carefully checked up as to academic qualifications, years of teaching experience in the medical sciences, and demonstrated ability as a teacher; in accordance with the recommendations of the accrediting associations in medical education. A complete list of the faculty personnel for the medical school will appear in the daily papers soon after they have been officially approved by the Board of Trustees. This will likely be not later than some time within the first week in September.

Unless some of the students who have already been selected for a place in the freshman class for the coming session fail to take their place in the class, the class will be filled. For emergencies of this kind, there is a waiting list in the Dean's office—this waiting list being made up wholly of Mississippi applicants with acceptable pre-medical credits—from which to select the required number to fill the freshman class for the year 1933-34.

Governor Conner, the Board of Trustees, and a substantial majority of the members of both Houses of the State Legislature are on record as being in favor of completing the new partly-completed hospital building here on the University Campus, so that a part of it may be used as a medical school; the remainder of the building being reserved for hospital purposes.

Dean Mull will retain his position as Head of the Department of Anatomy; but wishes to continue his policy of visiting the local medical societies throughout the State during the coming year, in order to keep the medical school in contact with the practicing physicians of Mississippi.

Dr. W. A. Evans

In compliance with the request of the Editor-in-chief of this Journal, I will attempt to sketch briefly the life and achievements of, perhaps the most marvelously versatile and brilliant medical man that our nation has produced in all years. I refer to Dr. W. A. Evans, now of Chicago.

Dr. Evans is a scion of pioneer and influential southern families. He was born in Marion, Alabama on August 5th, 1865 and was brought to Aberdeen, Mississippi, by his father and mother, when he was very young. He grew to manhood there, attending the city schools of that city. He was a member of the first class to be graduated from the old Agricultural and Mechanical College at Starkville in 1883. The same college conferred a master's degree on him in 1888. He graduated from Tulane with degree of M. D. in 1885. After graduating in medicine he associated himself in practice with his father, Dr. W. A. Evans Sr., at Aberdeen. The Board of Health of Mississippi, employed him to assist them in their strenuous but successful effort to keep the state free from yellow fever in 1888 during the Jacksonville epidemic (the last serious menace the state had from this disease). Soon after this time, perhaps in 1890, he went to Chicago to do certain post graduate work. At that time he attracted the attention of, perhaps

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Ben W. Lacy, President
Montgomery, Alabama

the greatest teacher of medicine and surgery of all time—namely Dr. J. B. Murphy. Possibly he had already dreamt dreams and seen visions of what his possibilities were. Be this as it may, under the patronage of Dr. Murphy backed by his giant intellect and indomitable will, his advance, in the field of his chosen branches of medical science, was most phenomenal.

In the early nineties he established a laboratory in the Columbia building on State Street in Chicago. Together with certain associates, he did chemical, bacteriological and pathological work. This adventure—new at that time—was a success from the beginning. In spite of the strenuous hours devoted to professional duties and other literary pursuits, when the famous "free silver" campaign of 1896 was inaugurated by the nomination of William Jennings Bryan at Chicago, when the nation was electrified by the "cross of gold" speech of the great commoner, he tendered his services to the democratic campaign committee of that great city. He spoke nightly thruout the campaign. So magnetic was he and so captivating and convincing were his speeches, that he was affectionately nicknamed "Democrat" by his republican friends and associates. When the writer of this sketch, spent a part of the following year (1897) in hospital work in Chicago, he was still known as "Democrat." In 1899 he began his career as a teacher of medicine in the medical department of the University of Illinois. However he had served as demonstrator of pathology from 1891 to 1895, in this college, later becoming professor of pathology. So really he was on the teaching force of that institution from 1891 to 1908. Probably the most outstanding and far-reaching work of his career was during the years including 1907-11; for it was during these four years that he served Chicago as Commissioner of Public Health. He instituted epoch making changes in all health work. These changes can not be mentioned in so brief a sketch as this must be. Suffice it to say that his theories and methods were soon accepted and followed almost every where. From 1908 until 1925 he was professor of Sanitary Science at Northwestern University. For a great many years he has edited the "How to Keep Well" column of the Chicago Tribune. This column is, possibly the most widely read health column in the nation. He maintains editorial rooms in the Tribune building and for this work he is very handsomely remunerated. On November 20th, 1907 Dr. Evans was married to Miss Ida May Wildberger, of Memphis, Tenn. She was a most brilliant woman, but unfortunately she did not live many years after her marriage. In 1910 Tulane University bestowed the degree of L. L. D. upon him and in 1911 the University of Michigan bestowed the degree of D. P. H. He is an Ex-President of the National Association of Public Health as well as of many of the other leading medical associations of the nation. He did research work in both Rome, Italy and Paris, France.

The foregoing statements barely touch the high spots, so to speak, in the career of this remarkable man. He is the most tireless worker that I have ever known. He works practically all the time—never less than twelve hours per day. And yet he seems to thrive on work. He possesses a wonderful physique—is a large man and powerful built. He has always been a great walker. He once told me that tho he lived five miles from his office, he had not ridden to or from his office in ten years, regardless of weather conditions. He indulges in frequent long distance swimming. He has written and edited many medical books and monograms. He is recognized as one of the nations great platform speakers. He speaks on a great many subjects—history, literature, political economy, governmental science or any phase ot medicine and public health. Many years ago, he told me that he had spoken, by invitation, in every state in the union but two—many times in most of them. I understand that he is now engaged in the preparation of a history of Mississippi. If this is true and he carries his undertaking to completion, I predict that more information concerning the state and its people will be found in that book than in any book ever written. You will notice that his bachelor's degree was conferred at the age of eighteen and his M. D. at little past twenty. Exactly fifty years—busy, strenuous years—have elapsed since receiving his bachelor's degree. The amount of work done and worthwhile things accomplished during these years is almost inconceivable. And yet he does not seem tired or appear "travel stained." In fact he seems just to be catching his stride. Although most of his life has been spent in Chicago, and is in some degree, "a citizen of the world," he still remains, in sentiment and sympathy, southern to the core. Although most of his early acquaintances and boyhood friends have passed on or have been sucked under by the currents of life, Mississippi, Monroe county and Aberdeen are the green spots on life's highway to him.

Mr. Editor, I wish all your readers knew this great man as I do, and I hope they will join you in your laudable effort to do him honor and to let him know that we appreciate, admire and love him.

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Graduate

MISS MAUDE CHILDS

This is Miss Maude Childs, of Baldwyn, who graduated from the North East Mississippi Hospital on September 1st. She will locate in Booneville perhaps to practice her profession.

The Diagnosis and Treatment of Incipient Coronary Disease

BY HENRY B. GOTTEN, M.D.,
Memphis, Tenn.

During the year of 1932 heart disease was the direct cause of approximately 25 per cent of all the deaths in the United States. It was the cause of approximately 50 per cent of all the deaths in persons beyond middle life. Untold suffering and economic loss is directly attributable to it. Upon such a basis we are justified in reviewing the subject many times, although much of what is said has been told before

According to etiology, heart disease may be classified in five great groups. The groups are: (1) Rheumatic, (2) syphilitic, (3) hypertensive, (4) arteriosclerotic, and (5) miscellaneous. The last includes the congenital lesions, obesity, toxemias and certain unknown causes.

In this paper we are concerned with the arteriosclerotic group, or the so-called degenerative form of heart disease. Many of the points which will be discussed may be applied to heart disease caused from any of the etiological factors listed above.

The primary cause of degeneration of the heart muscle is oftentimes obscure. The changes which are found in the heart and coronary vessels at autopsy of patients who died of degenerative heart disease, do not always explain the symptoms present before death, or the cause of the degeneration. The weakness of the muscle may be due to any one of three possible causes. These are: (1) arteritis with fibrosis, extending outward, involving the muscle tissue or extending inward, causing obliteration of the lumen of the vessel; (2) interstitial fibrosis from toxic or bacterial action, with subsequent muscle weakness; or (3) primary muscle degeneration, caused from anaemia, infarction, or toxic causes. Regardless of the primary cause of the degeneration the result is muscle weakness.

The usual symptoms caused by this degeneration of the heart muscle, such as extreme dyspnea, orthopnea, oedema, and fibrillation are well known to every physician and to most patients. We shall not discuss these symptoms of terminal heart disease. We are primarily interested in the earlier symptoms which present themselves before an extreme deterioration has taken place.

One of the common symptoms most frequently unrecognized by physicians and practically always unrecognized by patients as a symptom, is that of incipient dyspnea. By this is meant the dyspnea which follows unusual exertion. By dyspnea of this type we do not mean that which follows extreme exertion, neither do we mean the shortness of breath that elderly obese persons would experience from running after a street car, or chasing a calf in the pasture. We mean the dyspnea, mild in character, which results from exertion that has not previously caused breathlessness. An example of this would be dyspnea on climbing a long flight of stairs which had not previously caused discomfort. Patients rarely seek the assistance or advice of a physician during this stage.

Dyspnea of this type is often interpreted as a choking sensation or as a sense of construction in the chest. This symptom may be mild and transitory and lasting for only a few seconds, but it is of great significance.

In this early stage of myocardial disease an increase in the respiratory rate is common, but not so great that it is recognized by the patients. Other respiratory symptoms, such as pulmonary oedema, cardiac asthma and orthopnea are late symptoms of cardiac weakness and are easily recognized.

Occasionally patients who are suffering from early heart disease will present themselves because of exhaustion. They have found that the usual exertion of the day is causing undue fatigue. This fatigue may not be manifested as a true shortness of breath. Whenever patients of middle life or beyond, complain of excessive fatigue, an examination to determine the state of the heart muscle is most important.

Palpitation and irregularity of the heart are symptoms which cause much confusion in the minds of many patients and some physicians. It is frequently difficult to evaluate this symptom in terms of heart disease. Irregularity of the heart is a very common symptom of which many patients who have no organic heart disease complain. It is a symptom which denotes cardiac irritability, and may be due to nervous exhaustion, drugs, or tobacco, or may be a beginning degeneration of the heart muscle. We should always pay great attention to a patient who is over 40, complaining of irregularity of the heart, who has not previously had such a complaint. These irregularities, which are most frequent in the form of premature contractions, may be the result of partial occlusion of the large coronary vessels or the total occlusion of the smaller vessels.

Pain is one of the most reliable symptoms of heart disease and may be one of the earliest to present itself. It is the one symptom that causes the patient the greatest anxiety. When a typical precordial pain, paroxysmal in type, seizes a patient, radiates down the left arm and causes a fear of impending death, few of us have any difficulty in making a diagnosis of angina pectoris. Most patients recognize the significance of the symptoms without the aid of a physician. Likewise, the severe pain of coronary thrombosis, causing shock and breathlessness, is easily recognized. However, if we wait for pain of this character before making a diagnosis of coronary disease, many cases will be overlooked.

Pain may occur in all degrees of severity. It may be mild in character, lasting only a few seconds, remaining entirely localized to the precordia, and may be disregarded by the patient. Pain may be manifested as a sense of uneasiness in the epigastrium, which the patient attributes to indigestion, or again it may be represented as a sense of constriction or tightness in the chest. It may be severe and referred to distant parts of the body. It may manifest itself only as a hyperaesthesia of the precordial area. These various manifestations should be elicited in taking a history of the patient suspected of having coronary disease. These pains may be initiated by exercise but many times occur when the patient has not exerted himself. Fear, excitement, cold and the excessive ingestion of food may be precipitating causes.

Not all pain occuring over the precordia is cardiac in origin. Pains in this area must be distinguished from those caused by osteoarthritis, myositis, intercostal neuralgia and referred abdominal pain. Because these symptoms focus the patient's attention to his heart, they are often accompanied by palpitation and an increased pulse rate. This tends to make the diagnosis more difficult.

The physical examination of the patient suspected of having myocardial disease may be as disappointing as the history. Many of these patients present themselves to the physician because of complaints in no way referable to the heart. Only by a careful examination can evidence of heart disease be determined. This is illustrated by a case we saw recently. The patient, age 50, came to us because of a chronic infection. During the examination he asked that his heart be tested. As far as could be determined by physical means, including x-ray and electrocardiographic studies, his heart showed no evidence of disease. Two weeks later the patient had a typical attack of coronary thrombosis and died.

There are certain changes for which we should examine the patient. The majority of these individuals are plethoric, overweight, and lead an active life. Most of them show some evidence of arterio-sclerosis, the vessels being more firm to pressure and possibly more tortuous. This is easily demonstrated by an inspection of the eye grounds. Inspection of the chest may or may not reveal a more forcible cardiac impulse. However, when the disease has progressed, an increase in the cardiac impulse is more common. Sometimes an examination of the finger nails may reveal slight cyanosis, but this is difficult to elicit.

It is important to determine the respiratory rate, which may be increased. This may not be noticable on ordinary examination, but if the patient is requesed to lie down or assume an unnatural position, an accelleration of the respiratory rate may be noted.

The rate and rhythm of the pulse offers another valuable method of examination. In many patients the rate is increased, even after the patient has become thoroughly rested. The rhythm may be irregular and, as mentioned earlier in the discussion, may be of great significance. The irregularity in early heart disease is most frequently that of a premature contraction. Auricular fibrillation, and flutter are not early manifestations.

The patient may be made to exercise in order that the cardiac response may be noted. After moderate exercise the pulse rate and respiratory rate may be found to continue rapid. In a well person, it would have returned to normal when the same amount of time had elapsed. Hopping on one foot is a good form of exercise by means of which may be tested. It is a form of exercise to which they are not accustomed, hence gives information that some usual form of exercise does not.

Most of the patients have some elevation of the blood pressure, but many do not, and there seems to be no definite relationship between the extent of the arteriosclerosis and the elevation of the blood pressure.

The ausculatory examination of the patients suspected of having early myocardial disease of the degenerative type is most unsatisfactory. Murmurs are often heard and if present, are difficult to interpret. They may or may not be significant.

They may tend only to confuse the picture. A murmur may have been present for years, which has little to do with a heart weakness. We have recently observed a patient 96 years of age, who had a loud precordial murmur. Her family stated that the murmur had been observed by physicians for many years. Obviously the murmur had no influence on the heart muscle. The loudness of a murmur, it's duration and time during the cardiac cycle, and areas to which it is refered are all points of interest, but in themselves give little information as to the patients true cardiac condition and life expectancy.

The tone and character of the cardiac beat are often thought to be of some significance, but it is doubtful if it is a reliable sign. We are oftentimes influenced by previous examinations, or symptoms of which the patient may have complained. The heart sounds may be influenced by the thickness of the chest wall, the position of the patient or other factors, hence too much reliance must not be placed on this form of examination. We may find that at one time the heart sounds are weak and poor, and on the next examination they may seem strong and forcible.

Palpitation and percussion are important methods of physical examinations, providing the examiners will take sufficient time and have acquired sufficient skill. A hasty examination, done over the patient's clothes, or when the patient is in an unnatural position is of no information.

The x-ray and electrocardiograph offer additional means of physical examination. By means of the x-ray we may determine if there is any true enlargement of the heart or aorta and to what extent. The electrocardiograph may give more pertinent information. By its use the absolute rate and rhythm may be obtained. Irregularities of rhythm are easily demonstrated and will differentiate between frequent premature contractions and fibrillation. By this means we are now able to detect arborization blocks, resulting from an injured heart muscle. Slow fibrillations, heart blocks, and the condition of the cardiac musculature may often be demonstrated.

The treatment of the degenerative types of chronic myocarditis should be based on sound physiologic principles. Drugs are probably of the least importance. Inasmuch as chronic myocarditis is not a curative disease, our efforts should be directed toward maintenance of circulatory improvement.

Great care should be used in advising these patients. To most people, a diagnosis of heart disease is an order to put their affairs in shape. It need not be so. These patients should be told of their condition in a manner which will promote hope, and confidence. They should be taught how to live with a damaged heart, and not be in constant fear of impending disaster. The psychical treatment is far more important than the treatment by drugs. It is much better to have a happy patient, than one that is miserable and lives for a few months longer.

The patients should be taught the necessity of restricting their physical activities within the limit of cardiac reserve. Work or exercise should not be discontinued, but reduced to the point where the patient does not suffer from fatigue, dyspnea, pain or oedema. Much harm can be done by to greatly limiting activities of a lifetime. Rest during the middle of the day is a very valuable method of promoting relaxation and preventing fatigue. As a patient's cardiac reserve improves, a gradual increase in activities may be allowed.

Changes in diet offer very little in the way of improvement of this disease. If a patient is obese, a slow reduction of weight will be of benefit and will relieve any excessive strain on the heart. The old practice of limiting proteins, especially when the blood pressure is elevated, has caused much harm to these patients. Protein metabolism must be maintained, and a great restriction will cause a depletion of the body with the producion of weakness and secondary anaemia.

There are only a few drugs of importance in the treatment of heart disease. Digitalis is the old remedy, familiar to everyone, but has been greatly abused. Digitalis has no value except in congestive heart failure. When indicated, it should be given in full physiological doses. This means on an average of one grain of a standard powdered leaf to each five pounds of body weight. The dose varies with individual patients, a consideration which should be remembered. The use of tincture of digitalis has never been satisfactory, inasmuch as the dose varies so greatly, depending on the solution used, size of the dropper, or method of measuring. The tablets are far more satisfactory and less error in the amount of drug expected for use can be made. There is a great deal of doubt if tonic doses of digtails are of value. Quinine may be used if for any reason digtails is contraindicated.

The compounds of theobromine are the most valuable drugs to promote increased coronary circulation. They should be used over a long period of time, and in sufficient doses. They also tend to promote diuresis, thereby aiding in eliminating an excess fluid which might accumulate. The more common of these drugs are theobromine-calcium-salicylate (theocalcium) in seven and one-half to fifteen grain doses, and theophyllin-ethelene-diamine (euphyllin) in doses of seven and one-half to fifteen grains.

Other drugs of great value are the sedatives, including bromides, chloral and morphine. All of these drugs, given in sufficient amounts to promote rest, are indicated. In some cases the use of morphine in small doses, even if habit is established, is justified. The patient should not be allowed to exhaust himself from pain or dyspnea, when comfort and rest can be obtained by the judicious use of the drugs.

The Place of Lemons in the Diet

BY EDWARD PODOLSKY, M.D.
Brooklyn, N. Y.

Among the most important of all the fruits is undoubtedly the lemon. It was first introduced to mankind in the twelfth century when the Arabs brought this fruit into Spain. In 1494 the lemon was cultivated in the Azores and shipped in great quantities to England.

Lemons were enjoying a deserved popularity for something like three hundred years when their medicinal virtues were discovered. In 1753 Dr. James Lind, a Scotch physician, who was for many years a ship surgeon in the British navy published a very interesting book, which dealt with scurvy, a very much dreaded disease of that time. This physician pointed out the fact that after a person had been deprived of raw fruits and vegetables for forty days he developed scurvy. For this disease there was no medicine which accomplished as much as the lemon.

Dr. Blane in 1785 confirmed the experiences of Dr. Lind with lemons and persuaded the British naval authorities to give it a trial. Accordingly in 1793, the "Suffolk," a flagship of 74 guns, made a voyage of nineteen weeks to the West Indies without touching port. Each man was given 3-4 ounces of lemon juice with two ounces of brown sugar in addition to the customary ration. On arrival of the "Suffolk" at Madras, there had not been a single case of scurvy. This result was so impressive that lemon juice was introduced as a regular item of the naval ration in 1795. One ounce was given daily to each man, and this single measure completely eradicated scurvy from the British navy. The introduction of lemon juice as an antiscorbutic may be regarded as one of the greatest sanitary improvements of all times.

Not only among human beings has the lemon been established as a fruit of definite healthful qualities. It was Darwin and Buffon who observed that monkeys were in the habit of eating lemons when not feeling quite well. Darwin observed several monkeys which had been made drunk on alcohol the previous day, and of all the foods placed before them they ate only the lemons.

The lemon when analyzed is found to consist of some very essential elements. The whole fruit consists of 3.2 per cent ash, 45.13 per cent potassium, 2.73 per cent soda, 30.24 per cent calcium, 5.15 per cent magnesia, 0.77 per cent iron oxide, 13.62 per cent phosphoric acid, 3.08 per cent sulphuric acid and 0.48 per cent chlorine. The edible portion of lemon consists of 1.2 per cent protein, .7 per cent fat and 8.5 per cent carbohydrates. The fuel value per pound calories is 201. Lemon is rich in alkaline elements and has as much as 7 per cent citric acid. This citric acid is easily oxidized in the body into carbonic acid and water. In this way it serves as an alkalanizer and is of great value in overcoming acidosis from whatever cause, particularly acidosis associated with fevers and postoperative acidosis.

Even when lemon juice is reduced almost to the dry state it still retains its antiscorbutic power. This resistance has been attributed to its acid resistence. Further, the concentrated antiscorbutic fraction of lemon juice has been found to contain traces of iron, phosphorus, sulphur and iodine in their purest state.

For many years lemons have been used in the treatment of obesity. The usual method is to take the expressed juice of three fresh lemons in sweetened water three times daily to the exclusion of milk and fatty foods. To make it more tempting and for the sake of variety an occasional spoonful of loganberry juice may be added. The effects of lemon juice upon foods seems to exert an inhibitory power over steapsin and amylopsin which retards the digestion of fats and carbohydrates. Lemon jello may be also used in obesity diet. This is made as follows:

1 teaspoonful gelatine
1 tablespoonful of cold water
1-2 lemon for juice
2 teaspoonfuls of sugar.

During the course of a fever illness lemons constitute among the most valuable of foods. Instead of water lemonade may be given to greater advantage. This not only allays the thirst but also helps to overcome acidosis. A good lemonade for this purpose may be made as follows:

4 ounces of milk sugar
7 ounces of cold water
2 tablespoonsful of lemon juice (or more to taste). Strain and chill.

Somewhat later on in the course of the disease egg lemonade may be given. This is made from:

One whole egg
2 tablespoonfuls lemon juice
2 heaping tablespoonsful sugar.
3-4 cup of water. Strain and cool.

Lemonade is one of the most healthful of drinks at our disposal. When used with water which has been carbonated, it is very refreshing and efficacious in gastric disturbances. Many people with gout have obtained relief from their condition when they have been in the habit of taking several lemons daily.

Lemon juice has been found to be beneficial in the prevention and alleviation of acute tonsilitis. It may be taken with a little sugar, and also used to advantage as a gargle. A famous remedy among French singers for many years for throat ailments with hoarseness is contained in the following recipe which has been handed down for several generations: "Carefully roast a large lemon in the oven, being careful that the skin does not break and the juice escape. To the hot juice add enough sugar to be made into a syrup. A teaspoonful taken every half hour will bring about speedy relief."

The practice of chewing an acid fruit like the lemon stimulates the flow of saliva and cleanses the teeth and gums. This is taken advantage of by the makers of certain toothpastes who incorporate fruit acids in their toothpaste because these fruit juices stimulate the salivary glands which contain an enzyme which digests the mucin deposits on the teeth and helps to keep them clean. Lemon juice is the most valuable of these fruits.

A further use may be made of lemon juice in keeping the mouth moist in fevers and in other dehydrating conditions. The juice alone may be used in moistening the lips and cleansing the tongue, or it may be combined with an equal volume of glycerine.

In children's ailments the lemon is the most valuable of all our fruits. Dr. Barenberg and other child specialists have noted in a series of infants who had received lemon juice milk for periods of from six to twelve months showed that they manifested a better rate of growth than those who received other milk preparations. Lemon juice milk is whole milk to which approximately 28 cubic centimeters of lemon juice per litre is added. This milk is also of value as a food for children suffering from pneumonia and other respiratory ailments.

Dr. Osman, an English physician several years ago found that he could alleviate asthma in children with lemon and sugar. He fed his patients an increased amount of sugar in lemonade. If these children were kept on this lemon diet their attacks of asthma were prevented. The treatment consisted of giving three drachms of powdered sugar in lemonade three times a day in between meals.

For many years a physician in this country has been giving castor oil and lemonade as the only medicine to expel thread worms in children with very good results. The castor oil is heated in the bottle container, a wine glass is also heated, and a glass of hot lemonade is prepared. The patient takes a little of the lemonade first, then takes the hot castor oil, and follows it with more lemonade. The oil sweeps through the intestines without griping or distress within one-half hour, and this is due to the lemonade which acts like a buffer.

That the lemon exerts a germicidal action in the intestines is not doubted. Many years ago Drs. Kitasato and Van Ermengen demonstrated experimentally that the typhus bacillus as well as the bacillus of cholera were destroyed by a 1-2 per cent solution of citric acid.

Dr. Sansum and Dr. Gray, of Santa Barbara, California, have used with success sour citrus fruit juices in the treatment of deficiency of hydrochloric acid in the stomach. Half a grapefruit is recommended for breakfast with the use of two ounces of lemon juice well diluted with water to be taken with the other meals. Part of the first juice should be sipped before eating any food, and the remainder sipped during the meal so that all of the food may be mixed with the acid. The serving of these fruit juices with each meal is a simple and reliable method of treating hydrochloric acid deficiency.

In conclusion a few health hints to be attained with lemons may be mentioned briefly as follows:

1. The juice of half a lemon in a half a glass of water before breakfast will correct the most torpid liver and prevent biliousness.

2. A tablespoonful of lemon juice in a cup of black coffee frequently will cure a bilious headache.

3. Two or three slices of lemon in a cup of strong, hot tea will often cure a nervous headache.

4. An outward application of lemon juice will allay irritations caused by insect bites.

5. If a teaspoonful of lemon juice is added to boiling rice or sago, the kernels will be white, have a more delicate flavor, and be more healthful as well.

The lemon is one of our most valuable as well as the tastiest of all fruits on our dietary. It can be used more often with greater advantage.

Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION
Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

LET'S PUSH ORGANIZATION

When we look back ten years and recall how many husbands reluctantly put on their Sunday suit and stiff collar and beat it to their State Medical Association meetings alone, because wife insisted it was the only thing to do, and in a short decade these same husbands becoming enthusiastic attenders because wife has a common interest in going along—why question the feasibility of a Medical Auxiliary?

In the eight years since the Woman's Auxiliary to the Mississippi State Medical Associatiin was founded, we have yet the first time to hear any thing unpleasant coming before the body or having had to be settled out of session.

We organized with "harmony" as the key word and the same atmosphere prevails today. The wives of physicians, as a whole, rate high intellectually, making the aims of the organization appeal to them—hence the above mentioned "harmony."

While we are not as large in paid up membership as we should be, we may well be proud of achievements which could not have been accomplished without an organization. I refer first of all to the work given us by the State Medical Association on Flood Sufferers Relief and following this, the Health Education promoted by this body—thru our own and other women's organizations, and the Preventorium work, which has been invaluable in a small way.

Wherever the State Association meets, and a Local Auxiliary is on the job, you may always rest assured the meeting from both, attendance and social standpoints, will be a success. The splendid meeting of the Auxiliary to the American Medical Association held in New Orleans last month is a concrete example of what an organized thorough going group of doctors' wives may do. We were proud of them and here is our salute.

Knowing Mississippi as we do, we realize that organization has been retarded largely because of the scattered Medical Societies, some embracing as many as seventeen or more counties, thereby giving wives the impression that a Central organization within their husbands' society was impractical. This may be overcome by forming county units within an Auxiliary, giving them shorter distances and more intimate contact, which is absolutely necessary if we carry out the aims, that of creating friendliness among doctors' families.

Our husbands are no longer afraid of the motives behind our desire to be an aid in the true sense of the word, and are lending valuable advice as well as taking some. The time is now ripe in Mississippi, with Dr. Dicks and Mrs. Van Alstine heading the State Medical Association and Auxiliary, for intensive organization. "Let's go to it."

REPORT OF PREVENTORIUM CHAIRMAN STATE MEETING W. A. TO M. S. M. A. MAY, 1933

A cherished dream of Dr. Henry Boswell came true three years ago, when the beautiful and spacious Preventorium was thrown open to the children of Mississippi. No better site in the entire south could have been selected, on an elevation assuring drainage and water second to none in an unlimited supply. Shade and sunshine are there in plenty, and it is under the direct supervision of Dr. Boswell himself, being located on the grounds of the State Sanatorium. The state legislature has provided the building and general equipment, but those in charge soon realized that there were other needs not included in this fund, such as replacement of broken and worn out toys, books, games, equipment for special occasions, and even clothing for those unfortunate ones who, when time to go home came, had "nothing to wear." So the question arose. Who would undertake the collecting of this fund? The Woman's Auxiliary to the Mississippi State Medical Association was in the field for anything constructive and lasting, so why not this project? At the next meeting following the opening of the Preventorium, the Auxiliary voted to take over this work, and Mrs. Dan J. Williams was appointed State Chairman of the Preventorium Fund.

Each year following a letter has been mailed to every Federated Club in Mississippi telling them of this need and asking for a small donation. By this means not only have we been able to keep the children supplied but have kept the splendid work of the institution before the eyes of more than 250 clubs. Over $500 has been collected by this small effort, and we feel that money could not pay for the results obtained therewith. This will probably be an Auxiliary pet for many years to come, or until the State can supply all necessary material without other assistance. Had not so many banks hit bottom, carrying so many individuals with them, we feel sure we would have doubled our fund, but the good will and letters from Clubs all over the State is indeed appreciated by the chairman, her co-worker, Mrs. Henry Boswell and the membership as a whole.

Dr. Cohn Heads Tulane Medicos

DR. ISIDORE COHN

Dr. Isidore Cohn has been made head of the department of surgery of the graduate school of medicine of Tulane University. Dr. Cohn is at present associate senior surgeon of Touro infirmary.

He succeeds the late Dr. A. C. King. Others to hold this distinguished honor were the late Dr. Frederick W. Parham, and Dr. Denegre Martin, who retired.

Dr. Cohn is considered one of the most distinguished surgeons in the South, and, for that reason, was chosen to head a department of the South's leading medical school, one of the functions of which is to uphold New Orleans' claim as one of the principal medical centers in the country.

He was born in Baton Rouge on April 9, 1885, was graduated in 1903 from L. S. U. with the degree of B.S., and was graduated from Tulane school of medicine in 1907. He served as interne in Shreveport Charity hospital in 1905-06, and in Touro Infirmary from 1907-09.

Dr. Cohn has been connected with the teaching staff of Tulane since 1908. He is consultant surgeon of Flint-Goodridge hospital, medical director and surgeon of the Children's Home of the Protestant-Episcopal church, surgeon to Hope Haven farm, surgeon to the Jewish Children's home.

He is honorary member and counsellor of the Stars and Bars chapter, Alpha Omega Alpha, national honorary medical fraternity.

He is the author of many scientific articles. His "Normal Bones and Joints" and "Lecture Notes on Fractures" have been used at Tulane University for years.

He is a member of: American Medical Editors' and Authors' Association, Experimental Biology and Medicine, Orleans Parish Medical Society, Louisiana State Medical Society, Southern Medical Association, Southern Surgical Association, American College of Surgeons, American Medical Association.

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Spinal Puncture

DR. I. P. BURDINE, JR.
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It is quite surprising to note that the study of cerebrospinal fluid is by no means a very old laboratory procedure. Indeed, early investigators were unable to obtain the fluid except from dead bodies. and even after the development of the trephine operation, only small quantities could be collected. However, Corning in 1885 ushered in a new era in regards to collecting this protective fluid when he injected a cocaine solution between the dorsal vertebrae of a dog, thereby, producing analgesia. Morton, (1) in 1891 first advocated drainage of cerebrospinal fluid in cases of meningitis, (1) Simplification of spinal puncture was left for Quincke who about the same time developed a technique upon which little improvement has been made up to the present time. (1) In 1893 Lichthleim called attention to the procedure as an aid in diagnosis. (1) The proper interpretation of findings, of course, depended on not only the technique used in collecting the fluid, but also upon bacteriological, physical, and chemical studies afterwards.

TECHNIQUE

In doing spinal punctures for all purposes, I prefer to have the patient lying as level as is possible on one side or the other. A table is by no means necessary, and punctures are frequently done in bed. As a matter of fact, occasions do arise at times which make it best for the patient to sit up and tilt the body forward during the procedure. The vertebral column should be horizontal and the surface of the back perpendicular to the table or to the bed. This latter caution prevents torsion of the vertebral column, thereby, precluding any displacement of the spinal canal and cannot be over emphasized. I mean by this, that the shoulders and hips both should be in the same vertical perpendicular plane to the surface upon which the subject is lying. The knees and chin should be made to approach one another as close as is possible allowing for comfort to the patient in this fetal position. An attendant should be in front of the patient to hold him in this position in order to prevent straightening out of the vertebral column and breaking a needle. Should a needle break deeply in the tissues and make recovery too difficult, it should be left in place. In unruly patients extension of the back can be prevented by a sheet under the knees, thence around the neck and held tightly or tied by an attendant.

In the adult the spinal cord ends at the first lumbar, sometimes the last thoracic vertebra and in children usually at the second lumbar vertebra. The

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structures encountered by the needle in making the puncture in the order named are: skin, superficial fascia, fat, deep fascia, multifidus muscle, vertebral arches, ligamentum flavum, dura, and arachnoid.

With the patient in the position described above a line across the crests of the iliac bones will ordinarily fall between the 4th and 5th lumbar vertebrae. This line can be estimated or it can be actually drawn with iodine in preparation of the patient. This central point where the line crosses the mid-line over the vertebral column or a centrally located point between the 3rd and 4th lumbar vertebrae are the most frequent sites of punctures and least harmful or liable to injury of the nerves. The spinous processes below and above this point should be palpated and the exact point desired marked by firm pressure with the gloved finger nail to prevent pain when the local novocain solution is used intra-dermally to deaden the area. In doing spinal punctures for analgesic purposes, however, it is often desirable to go higher than this, keeping in mind that one should stay below the level of the cord.

A plain flexible spinal needle should be used with a perfectly fitting stylet and a sharp point. Many investigators have used large complicated needles for this work but personally they are to a disadvantage. Stylets to these needles are much on the order of a piston to a glass syringe—they fit only the needle for which they are made best. In infants and children a No. 22 Wasserman needle may be used. Long-pointed, notched, or valve needles are undesirable.

Sterility as well as cleanliness are of prime importance in the entire procedure but this does not mean that spinal punctures are only to be done in the modernly equipped hospitals. Iodine and sterile towels are necessary to prepare and drape the patient. It is a peculiar thing that a surgeon will put on sterile gloves to open the peritoneum but will often not go to this trouble when opening the menines. Recently, a case of sterile meningitis developed after a spinal analgesia had been given. The pressure was increased, the fluid cloudy, and the cell count ran to 3,000 only 8 hours after the "anesthetic." The patient, had a severe headache and was unconscious but recovery occurred in 48 hours. I attributed this to the irritative effects produced by powder which was found to have contaminated the syringe since all smears and cultures were negative. This is much the same as the case recently reported by Hurxthal. (2).

After a small wheal is made at the desired site of puncture the needle is directed straight towards the canal and perpendicular to it. The point of entrance is exactly in the mid-line and any deviation of the needle is unnecessary provided the patient be in the correct position and have no vertebral abnormalities. As soon as the dura is punctured a snap is felt which signifies entrance into the canal. Sometimes this can even be heard. The needle goes straight in. The stylet is then removed and the fluid pressure obtained by a mercury or water manometer. This is very important for diagnostic purposes and a spinal manometer is next to the blood pressure manometer in order of importance—for the blood pressure and spinal pressure usually are interrelated. When removed, the rate of flow should be noted as well as the color, the apparent amount, and whether there is any foam on shaking the fluid.

Ventricular and cisterna punctures are sometimes done either alone or in conjunction with the lumbar tap, but details of these procedures require too much space. Cisternal puncture is employed in Ayer's test for spinal block, is often used in washing or irrigating the canal or the intraspinal administration of antimeningicoccal or antitetanic serum.

DIAGNOSTIC AND THERAPEUTIC ASPECTS

Lumbar puncture should not be done unless there is an indication for it, but when that indication exists no fear should prevent one from doing the tap. Its field of usefulness comes next to the urine and blood as a means of aiding the patient.

Spinal puncture should be kept in mind more than ordinarily as a possible way of differentiating difficult or puzzling cases.

Diagnostically it is highly important in neurosyphilis and its treatment as well. The State Hygienic Laboratory has informed me, however, that only one or two and sometimes no spinal fluids are received daily for examination, and that the majority of these are negative (3). That we are not checking up on syphilis properly is the only conclusion to be drawn. The United States Public Health Service requires spinal punctures be done on all luetics.

In all types of meningitis spinal puncture is the greatest tool with which we have to work. An apparently hopeless case may assume favorable prognostic aspects upon the return from the laboratory of a Wasserman, gold curve, culture, and cell count. The case may be one of meningismus. Its use in brain abscess is also important. Eustus (4) says that 49 percent of office patients complain of headaches and Anderson (5) states that all persisent headaches should have the benefit of a spinal puncture. A brain or spinal cord tumor may be the cause and Nonne's or Froin's test may give us the information. Headaches may be relieved by relieving increased pressure on the nerves of the dura. In cases of brain tumor or intractable headache encephalography by the lumbar route should be done. Migraine is sometimes relieved by it.

Gurdjian reports that in 718 cases of head injury, 246 showed cerebrospinal fluid changes indicative of brain damage or dysfunction (6). The repetition of spinal puncture with drainage of the fluid gives immediate therapeutic results often remarkable, and of course often life saving (6). Drainage should not be done however, in such cases until shock is well under control. Intravenous 50% glucose in such cases is not as advantageous as once thought. I usually draw off at least one-half the rise above the normal pressure.

Otolaryngologists and Ophthalmologists are well aware of the usefulness of the procedure and Anderson has stated that when persisent giddiness and nausea are associated with a diseased ear that investigation should be made of the cerebrospinal fluid (7). Likewise, the eye man knows the great value of spinal puncture in differentiation and diagnosis of eye conditions. In cases where the blood Wasserman is negative there is an occasional positive spinal fluid finding.

The Urologist knows of its value in cases where there is difficult urination without prostatic hypertrophy or uretheral stricture. Early tabes with a negative blood Wasserman and positive spinal fluid findings is not infrequently the cause of the difficulty. Recently Dowman (8) has called attention to the fact that lumbar puncture with the performance of Queckenstedt's test is the only reliable indication for laminectomy in cases of spinal injuries. This test is of such great importance that it should be done as a routine in the majority of spinal punctures done for diagnostic purposes. Its value surpasses the roentgenological and neurological findings.

In cases of hypertensive heart disease with congestive failure and in uremia associated with hypertension the spinal tap and drainage is often of benefit. This relieves the increased pressure of the fluid, lessening the edema of the brain, thereby causing a more perfect functioning of the vital centers. The puncture may be used occasionally in eclampsia especially in the more conservative types of treatment.

Other conditions in which spinal puncture may be valuable aid are diabetic coma, hydrocephalus, alcoholic psychosis, and occasionally epilepsy.

Lastly, spinal puncture is employed in administering spinal analgesia which itself has many uses other than for analgesia per se. Oschner and Gage have called attention to its beneficial effects in adynamic ileus (9) Partial obstruction is sometimes relieved by it. Pain from persistent and severe sciatica when not relieved by epidural injection can be alleviated by spinal analgesia.

Suffice it to say that although "spinal anethesic" (as we are prone to call it) has its field of great usefulness and advantages, I do not believe it should be used indiscriminatingly or routinely in operations below the diaphragm.

Recently, I have tried Pantocain in place of the usual Novocain and the results seem gratifying for prolonged analgesia.

CONTRAINDICATIONS AND COMPLICATIONS

Spinal puncture is relatively a safe procedure as stated by Levinson who says that he has never seen but one death from it in the many hundreds he performed, and this was in a case of brain tumor.

Scoliosis, hypertrophic arthritis, fat individuals, old tubercular spondylitis make spinal puncture difficult or impossible but does not always contraindicate it. Any sudden release of pressure, especially when the pressure is much elevated is a contraindication, in a way. Spinal taps on individuals with posterior fossa tumors if done at all should be done with greatest care. Any infection especially erysipelas at the site of puncture as well as some of the acute contagious diseases as measles or scarlet fever are further added contraindications.

Recently Schonfield has shown that hyperglycemia sometimes follows withdrawal of spinal fluid from the canal but this never reaches an alarming point (10). The amount of fluid withdrawn is proportional to the increase in blood sugar.

If a careful technique is routinely followed com-

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plications rarely result from spinal tap with withdrawal of fluid. Some doctors have done the procedure repeatedly in their offices and one doctor in a Northern Clinic allows his patients to ride home in a street car afterwards. Of course, this is not ideal but if the patient does not have more than the usual 5-10 cc of fluid withdrawn the procedure seems to be relatively safe.

Sterility in all the technique as well as cleanliness will prevent complications such as meningitis, myelitis, etc. The most frequent complication or symptom following lumbar puncture is headache. This of course, is usually mild and should it become severe it is probably wise to repeat a puncture and get a cell count as the case may be one of early meningitis.

If the fluid is not withdrawn too rapidly collapse and shock are avoided and jamming of the cerebellum or medula less likely. This latter is all the more reason for having the patient lying down.

SUMMARY

Since the technique of spinal puncture has made it a relatively safe procedure it becomes a highly important aid in both medical and surgical diagnosis and treatment. Furthermore, due to the many pathol ogical conditions in which it will give us decisive information as well as be of benefit to the patient therapeutically one should not refrain from doing a tap when indicated. Failure to do so should not always be blamed upon unaccustomed technique because once the knack of doing spinal punctures is gained it is a very simple procedure. Inconveniences arising in a home or in the office towards doing spinal punctures should not make one discard the procedure as impossible.

One must keep abreast of progress made in the physio-chemical and laboratory studies of cerebrospinal fluid in order to be equipped to apply spinal puncture in its many uses. Elementary tests are often all that is necessary to draw one to a conclusion. Unfortunately, the trouble of sending a specimen of fluid by mail or the inaccessability to a highly equipped pathological laboratory prevents many of us from doing lumbar taps.

There are not many contradictions, and provided the proper technique is used the complications are few. Why not use the puncture and make it a more valuable procedure than we do?

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Death Takes Dr. Isaac A. McSwain

Dr. Isaac Arnold McSwain, for over 50 years a practicing physician a steward in the Methodist church, and past Worshipful Master of Paris Lodge 108 Masons, died at his home on North Poplar Street. He was 86 years old.

The immediate cause of his death was attributed to indigestion and a weak heart, although he had been in failing health the past two years. He was confined to his bed only two days.

Funeral services were held at First Methodist church at three o'clock by Dr. C. C. Daniel, pastor, assisted by Rev. R. N. Owen, pastor of First Baptist church, Rev. O. C. Wrather, presiding elder of Paris District M. E. Church, South, Dr. A. Homer Jordon, pastor of First Christian Church and Dr. C. A. Waterfield of Memphis, former pastor of the Methodist church here. Masons had charge of the burial services following the funeral.

Isaac Arnold McSwain was born near Blood River east of Buchanan, December 4th, 1845, the son of David M. and Benita Randle McSwain. His ancestry was Scotch-Irish, his parents coming from North Carolina and settling in this county in 1812. His mother's grandfather, Richard Randle, was an American soldier in the revolutionary war.

He was reared on a farm and received his elementary education in a country school. He was weak physically, a naturally delicate constitution being further impaired by a serious attack of scarlet fever when he was 13 years of age, so much so that he was rejected from military service by the Southern army at 20 years of age at a time when soldiers were in greatest demand.

In early manhood he began the study of medicine under the late Dr. A. J. Weldon of Buchanan. He entered the University of Louisville in 1869 where he received some medical training and completed his education 20 years later graduating from Vanderbilt University in 1889.

He organized the West Tennessee Medical Association in 1882 and served as its secretary until his death. He was president of the Tennessee Medical Association in 1903 and was president of the Tri-State Medical Association in 1905-06.

An article from his pen, "Life of a Country Doctor," was widely published several years ago and has since been often reproduced by various medical journals.

He spent all of his life in Henry county with the exception of two years he lived at McKenzie. He came here from Buchanan in 1889 and retired from active practice in 1915. When his two sons, Dr. George McSwain and Dr. Horace McSwain entered the army in 1917, however, he again took up the practice of medicine and saw his most strenous service in the profession during the influenza epidemic the ensuing winter.

In 1866 he was married to Margaret Dale, daughter of Mr. and Mrs. Isaac Dale, of Buchanan. To this Union wee born eleven children, eight of whom survive. They are: William D., Dr. Horace, Mrs. J. S. Foreman, Marvin, Tom M., Dr. George R. and Dale McSwain of this city and Mrs. J. T. Oakley of Nashville. A son, Edward, died in 1900 and Prentice and Grace died in early childhood. Thirteen grandchildren and 3 great grand children survive.

He is the last member of his family, his brother having died in childhood and two sisters died many years ago. His wife died in July, 1930. Their Golden Wedding Anniversary celebrated in 1916 was an occasion of much joy to the family and their many friends.

Dr. McSwain became a member of the Methodist Church while he was a lad of 'teen age and he was a consecrated Christian all his life. He served the Buchanan Church many years as steward and after coming to Paris became a steward in the local church. He was ordained a Methodist minister in 1887 and conducted a number of meetings in Henry and adjoining counties, but never a regular pastorate.

The deceased was a Mason for 66 years. He served Conyersville lodge 145, Puryear, as a worshipful master from 1874 through '76 and again in 1886-87. He served Paris lodge No. 108 as worshipful master in 1889-90, 1899-1900, 1902-03 and 1908. Paris Chapter 129 Royal Arch Masons as High Priest, Paris Council 92 as Thrice Illustrious Master, Paris Commandery No. 16, Knight's Templars, as Eminent Commander and also served all those bodies as secretary for many years.

Dr. McSwain was a talented writer and for many years contributed articles to the Paris Post-Intelligencer on religion and philosophy, his weekly column having been one of the paper's best features for 20 years. He was also pressed into service for special writing and furnished historical data on the early church, fraternal and religious life of the county which has been spread on the minutes of various organizations as permanent records.

Serving as active pall bearers at his funeral were: W. I. Dale, John W. Travis, Harry Dudley, Alfred McGehee, John Lasater, H. D. Timmons.

Honorary pall bearers were: W. T. Porter, A. B. Mitchum, S. J. Veltman, J. P. Peeples, P. P. Pullen, J. S. Veltman, Dr. G. T. Abernathy, Dr. George Boone, Dr. R. G. Fish, Dr. W. G. Rhea, Dr. Henrietta Veltman, Dr. M. C. Wiggins, Dr. Elroy Scruggs, Dr. A. A. Oliver, Dr. R. J. Perry, Dr. H. G. Brooks, Dr. E. A. Travis, Dr. Ike Jones, John R. Rison, Sr., J. L. Holland, W. N. Barham, J. F. Aden, O. C. Barton, T. C. Rye, D. T. Spaulding, Gus Presnell, C. D. Trevathan, C. E. Hastings, John T. Currier, W. E. Gatlin, Clark Looney, L. C. Humphreys, J. W. Aclin, Dr. R. A. Fox, S. T. Doty, J. M. Gorman, J. M. Dean, S. J. Routon, W. L. Wiggins, J. C. Porter, Joel M. Porter, M. W. Yonkin, W. W. McFadden, T. C. McCall, E. B. McGehee.

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Obstetric Analgesia

BY SIDNEY MEEKER, M.D.
Memphis, Tenn.

Relief of pain in labor dates back to antiquity, when potions were given to women in labor and weird incantations were performed. Even the god Apollo was said to have been born while his mother, Latona, was under hypnotic influence. Among savages alcoholic beverages were given. Opium was used by the Egyptians and coal-vapor was administered to women of India. In the middle ages, fumes from a combination of opium, hemlock, hyoscyamus, mandragora, ivy, lettuce, hemp and dock seed were used. Fumes from vinegar were inhaled to awaken the patient. Probably the earliest record of a rectal injection for the relief of pain in any condition was when Dioscorides, a surgeon-botanist, used wine of mandragora in relieving wounded soldiers of Nero's armies. In 1846, Roux injected pure aqueous ether in the rectum, but it was found to be too irritating.

Nitrous oxide was discovered in 1774. In 1799, Sir Humphrey Davy discovered its anesthetic properties. In 1800, Dewey used it to relieve headaches. December 11, 1844, Horace Wells, a dentist, used it in extracting a tooth. In 1868, nitrous oxide and oxygen were first used in surgery by Dr. E. Andrews, of Chicago, and about 1880 it began to be used in obstetrics.

Ether inhalation was first used by Dr. C. W. Long, of Georgia, in removing a tumor of the neck, March 30, 1842. In January, 1847, Sir James Y. Simpson, of the University of Edinburg, Scotland, was the first to use ether as an anesthetic in obstetrics. On November 4, of the same year, he first used chloroform in a delivery. In 1853 he used it in the delivery of Queen Victoria, of England. He substituted chloroform for ether because the unpleasant odor of ether on his clothes was objectionable to his patients. In speaking in defense of painless labor he said: "Pain in excess is destructive and even ultimately fatal, and the great pain accompanying parturition is no exception to this general pathologic law. If this is true, and I believe it is, is it not demanded that we employ all means at our command for the alleviation of pain incident to childbirth?"

In 1899, Schneiderlin recommended morphine-scopolamine in surgery, and in 1902, was the first to use it in obstetrics. The next year it was further developed by Von Steinbuchel. Subsequently it was used by Kronig and Pankow with varying success. Heroin and Pantopon were tried in the place of morphine, without any special advantage.

"Twilight Sleep" with Scopolamine (Hyoscine) and Morphine.

Under the name of "Twilight Sleep" (Dammerschlaf), Dr. Karl Gauss, of Freiburg, Germany, was the first to use morphine-scopolamine to any extent. It was the greatest step in the direction of painless childbirth up to that time. However, its original aim

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was to produce amnesia and not analgesia. The dosage was determined by the ability of the patients to remember ordinary familiar objects that were shown them at stated intervals. The patient was kept in a sound-proof, darkened room and her ears were plugged with cotton. He used morphine-scopolamine in the initial dose at first, but later substituted narcopine for the morphine. An average of three doses of scopolamine were used during the remainder of the labor. He reported 1,000 cases, with 70 percent perfect results. Uterine inertia was present in 20 percent, with prolonged labor, calling for the use of forceps. Thirteen and seven-tenths (13.7) percent had "blue" asphyxia or oligopnoea. By "blue" asphyxia he meant a condition in which the child after one or two inspirations or even a cry, appeared to be in a state of deep sleep and forgot to breathe, the heart continuing to beat unaltered. They were usually easily revived by artificial methods. His death rate he gave as 3 percent. He considered his failures as due to:

1. Beginning the injection too early;
2. Beginning too late to take effect before delivery;
3. Giving too large a dose or repeating it too often.

In 1913 a paper was read in Chicago giving a report of 3,000 cases delivered by the Kronig-Gauss method of "Twilight Sleep."

In 1922, Dr. B. J. Kouwer, professor of obstetrics in Utrecht University, Holland, in condemming the use of "twilight," expressed the opinion that, when a woman has so far degenerated that she can no longer endure the pains incident to child-birth, she is not fit for motherhood.

In Europe, special hospitals were built in which to give "Twilight Sleep." There was a great deal of secrecy in its use and such extravagant claims were made for it that the medical profession, as a whole condemned it. Medical men are very apt to believe and use only what they are taught in the school of medicine which they attend. Up to this time very little was taught about hyoscine or scopolamine. Those who condemned it overlooked its many good points until several recognized physicians began to report excellent results in its use as an analgesic in a large series of cases.

Opitz, in 1921, reported 2,037 "twilight" cases, with a death rate of 2.1 percent; and in 2,242 cases without "twilight," the death rate was 3.75 percent. In the November 1921 Lancet, Horwitz states that "twilight" is especially good in minor pelvic contractions and breech cases; also in mothers with heart disease. He says, "The more I administer twilight sleep, the more I like it, and I consider it to be the greatest advance in obstetrics since the employment of chloroform."

In the December, 1921 Lancet, is reported a lecture given by Dr. Hugh S. Davidson, to the Edinburg Branch of the Scottish Midwives Association. In it he says:

"Many doctors are wholly in favor of the use of "twilight sleep" in every case and others are equally emphatic in condemning its use in any case. Some of the laity, especially those who have experienced it personally, swear by it, whilst others inveigh against it and credulously swallow every tale they have heard as to its alleged effect on the mother and the child and to its filling the asylums with idiots. I have never come across even one such case. My personal opinion is completely in its favor, as you can judge by the fact that I have used it among my nearest relatives."

In 1925, Dr. G. W. Theobald, of the University of Leeds, Dublin, Ireland, reported the use of "twilight" on a series of primiparae in the Leeds Maternity Hospital. The average length of labor was 10 hours and 40 minutes, while the average time without "twilight" was 18 hours. The convalescence was nearly proportionately shortened. The results were excellent and the bogie of "blue" babies was conspicuous by its absence.

In the March, 1923 issue of the New Orleans Medical and Surgical Journal, Dr. Bertha Van Hoosen, professor of obstetrics in the Loyola University Medical School, reports a series of 2,023 cases of "twilight" covering a period of 8 years, that were delivered in the Frances Willard, the Mary Thompson and Mercy Hospitals of Chicago. After the initial dose of morphine-scopolamine, the patient was given scopolamine, gr. 1-100 (0.65 mgm.) every thirty minutes for three doses, and then every two hours until delivered. There were only 53 cases of asphyxia or "blue" babies, all being resuscitated. Twenty (20) of these patients had 15 doses each of scopolamine, without a single case of asphyxia.

"H. M. C."

My first case of labor, after I located in Memphis in 1908, was a primipara with a so-called "rigid os." After 10 hours of hard labor, with pains every two or three minutes, the dilatation was less than three fingers-breadths, with practically no thinning of the cervix. As she was nearly exhausted by this time, I decided to give her a hypodermic injection of "H. M. C. No. 2", which contains morphine, gr. 1-8 (8 mgm) and hyoscine (scopolamine, gr. 1-200, (0.33 mgm) with cactoid, gr. 1-120 (0.5 gmg). When it took effect the pains became ten to fifteen minutes apart and she slept soundly between the pains. In an hour and a half the pains were again about three minutes apart. On making an examination I was surprised to find the cervix fully dilated and the head in the mid-strait. The baby was soon delivered. In cases where the pains were very severe in the latter part of the first stage, I continued to use "H. M. C." to give rest and take the sharp edge off the pains. Having had this experience with "H. M. C." I was prepared to try out scopolamine, as used in the Gauss "Twilight Sleep."

I recall a lengthy discourse on hyoscine by Dr. H. A. Moody, my professor of therapeutics in the Mobile Medical College. He told us of its use by the late Dr. Geo. E. Petty, of Memphis, Tenn., a pioneer in the use of hyoscine in the cure of the morphine habit. I had the pleasure of meeting Dr. Petty soon after I located in Memphis.

In 1914 I discussed with him the advisability of using scopolamine in "Twilight Sleep." He said that scopolamine, which is identical chemically, with hyoscine, has no cumulative properties, is eliminated in a few hours and has no after effect. It may cause true delirium in those who have an idiosyncrasy to the drug. By true delirium he meant a case that has to be forcibly controlled. In August, 1914, I persuaded two patients to let me give them "Twilight Sleep." The next year five others "risked" taking it.

The general effect of scopolamine on the mother is: flushing of the face, accelerated pulse, restlessness, sometimes delirium and occasionally headache, nausea and vomiting. However, vomiting often occurs without analgesia of any kind, as digestion seems to stop or is greatly inhibited during labor. At first many were afraid to try it, as their friends had heard it was extremely dangerous, because the mother was liable to die while under its influence and the baby might be an idiot. In a few years I began to deliver many of these friends under "twilight." They saw that the mothers did not die, the children were not idiots and also that the mothers were relieved of the major part of their suffering. Because of my using analgesia I have an average of 40 to 50 new patients a year.

In the beginning I used the memory test as to dosage and interval between doses, but soon decided that it was not practical. I now depend on the following conditions in determining the size of the dose:

1. The severity of the pain;
2. The depth of sleep between pains;
3. The thinning or effacement of the cervix;
4. The rapidity of the dilatation;
5. The rate of descent of the head or presenting part.

TECHNIC

At first my dose of scopolamine was gr. 1-100 to gr. 1-200 (0.65 to 0.32 mgm.), but now I give gr. 1-200 to gr. 1-400 (0.32 to 0.16 mgm.). The amnesia and analgesia from the smaller dose, repeated to effect, is usually more satisfactory. When labor begins with extremely severe pains or when I use a bag, I often increase the morphine to gr. 1-6 (10 mgm) and the scopolamine to gr. 1-150 (0.48 mgm).

Morphine-scopolamine usually lengthens the interval between pains when it takes effect, but this does no harm as it gives rest and the patient is more able to withstand the harder pains which follow. Sometimes "false" labor begins with strong pains, but they usually stop within an hour or two. By giving morphine-scopolamine, the pains will stop almost immediately. For ideal results, the patient should have isolation and quietude, but this can seldom be obtained. As the eye is the last of the special senses to lose its power of impressing the subconscious mind, I have the patients keep their eyes closed.

Before the patient is under the influence of the morphine-scopolamine, I have her take a deep breath, at the beginning of a pain, and hold it as long as possible, then take another deep breath and hold it until the pain is gone. By constant repetition this registers on the subconscious mind and she will continue to take deep breaths and hold them, in this manner, throughout labor. I do not allow my patients to pull on straps.

The great majority of patients under scopolamine can be controlled by sharp commands, provided they have not been given too-large doses. Superstitious women and those of a low level of intelligence are more apt to have delirium than are those of the intelligent group.

In giving morphine-scopolamine analgesia, it is necessary for the doctor, a family nurse or a competent member of the family to stay with the patient after she is completely under the analgesia. Where nitrous oxide or ethylene and oxygen gas analgesia is given, it is necessary for the doctor and the anesthetist to remain with the patient. This is expensive, as gas costs the patient from $12 to $15 an hour, while scopolamine costs less than one cent an hour.

Morphine-scopolamine seems to have a relaxing effect on the circular muscle fibers of the cervix, while it interferes very little with the expelling forces of the upper segment of the uterus. It greatly relieves fatigue and the patient awakens in a much better condition than where no analgesia has been given. Practically all of my cases of "blue" babies have the cord about the neck or some other kind of dystocia, such as prolonged labor, occiput-posterior presentation, et cetera., to account for the condition.

In 1922, after eight years of experience in the use of "twilight," I wrote a paper on the subject and in closing I said, "My belief is, that "twilight sleep" or some modification, under another name, will be used because the mothers are getting wise. They are learning that their friends are obtaining relief and they will demand it also."

Ether-Oil and Barbiturates

The next year a report of a newer method of analgesia was published in the American Journal of Obstetrics and Gynecology by Dr. Gwathmey, who gave it the name, "Synergistic Analgesia." The method was developed in the New York Lying-in Hospital. A

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second report was published in 1924.

In August of that year I began to use it. My patients complained so much of the pain and soreness following the injection of the magnesium sulphate that I soon discontinued it and gave the ether-oil in conjunction with the morphine-scopolamine analgesia with which I was familiar.

If a patient has taken ether, with disagreeable memories, she will probably complain during the administration of the ether-oil. However, when it becomes effective, she will sleep quite soundly between pains. An enema should be given before injecting the ether-oil. During the injection I have the patient lie on her right side instead of her left, as is usually advised. When lying on the left side, the descending colon is compressed and the solution is more apt to be expelled. The solution is injected through a No. 17, stiff catheter, attached to a large-size Asepto syringe. If the solution enters freely, the syringe acts as a funnel; if it does not, it can be forced in by inserting the rubber bulb plunger. Ether-oil has antiseptic properties and any bowel movement during delivery is not apt to cause infection.

I seldom use ether-oil before the latter part of the first state or the beginning of the second state. At this time it seems to produce better relaxation of the cervix and interferes very little with the expelling forces. To a great extent it takes the place of intermittent nitrous oxide or thylene and oxygen gas during the last hour or two of labor.

The barbital compounds, such as Sodium Amytal, Nembutal, Pernocton, and Avertin are now, as we know, being used with much success. In medicinal dosage, experimentation seems to reveal that they are practically harmless to mother or child. They can be given by mouth, by rectum or intravenously. In conjunction with other analgesics, they come near to producing ideal amnesia. I have been using Sodium Amytal and Nembutal, singly or combined, with very gratifying results. The action of Sodium Amytal is strongly hypnotic, but only mildly analgesic. That of Nembutal is rather strongly analgesic, but it has a comparatively short hypnotic effect.

In the average case as soon as the “real’ pains begin and the cervix is softening and dilating satisfactorilly, I give Sodium Amytal gr. vi per rectum. This causes the patient to sleep more or less soundly between pains. As the pains become stronger and the cervix is gradually dilating, I give an H. M. C. No. 2. In one or two hours I give scopolamine gr. 1-200 to 1-400 or (Nembutal) Pentobarbital Sodium gr. iss. Since the Barbitals are proving so efficient in combination with Morphine-scopolamine, I use ether-oil less often. In cases where the cervix and perineum are more or less rigid the ether-oil gives a decided relaxing effect near the end of the first stage or beginning of the second stage. I have never cared for it in the beginning of the first stage.

Paying attention to trivial details often accounts for best results. In a few cases, analgesia seems to

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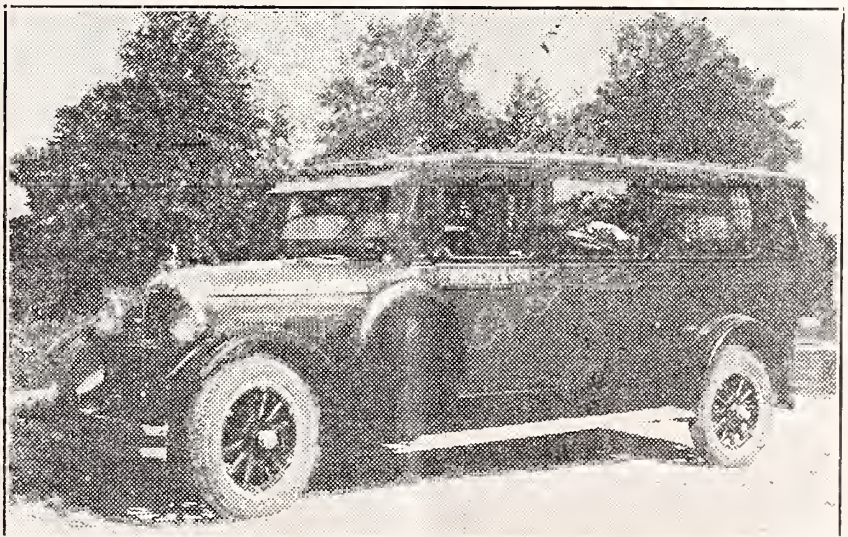

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increase the necessity for operative delivery. This usually is not a serious matter, as the lower uterine segment and the outlet are more relaxed under analgesia. Often an anesthetic is not necessary for the delivery. Under analgesia, especially where ether-oil has been given, the perineum can be "ironed out" and thus prevent a large number of lacerations. It is rare that normal positions require more than a shallow episiotomy or "prophylactic forceps," by which I mean small, low forceps, that are released as soon as the head is on the perineum. Manual or forceps rotation of a transverse head or occiput-posterior position, extraction of a breech, mid-forceps and podalic versions require a deep surgical anesthetic. I have never used high forceps, because of the extreme danger to both mother and baby in their application. I have had a few cases that were so thoroughly relaxed under analgesia that I was able to apply mid-forceps or do a version without an anesthetic. In cases of prolapsed hand, arm or cord, in face, chin and transverse body presentations and in transverse head or occiput-posterior cases might become "persistent," for I terminate them by podalic version before this occurs.

Some advise that chloroform should not be used as an anesthetic in operative deliveries where ether-oil has been given. I have seen no bad effects from its use and I prefer it, as it gives better relaxation than gas or ether. However, it should be given by one who is accustomed to its use.

"Dry" labor and mal-positions, such as occiput-posterior, breech, face and transverse body, are poor dilators and the first stage is prolonged. A Braun bag, used in such cases, will shorten the first stage by nearly one half.

Average Length of Labor in My Cases

In all cases	Primipara	Multipara
Without analgesia	13 hrs., 45 min.—	9 hrs., 57 min.
With analgesia	12 hrs., 11 min.—	9 hrs., 2 min.
Breech cases		
Without analgesia	33 hrs., 17 min.—	15 hrs., 53 min.
With analgesia	10 hrs., 28 min.—	11 hrs., 9 min.
Transverse body		
With analgesia	13 hrs., 10 min.—	11 hrs., 40 min.
Bag induction	—	7 hrs., 47 min.
Occiput-posterior		
Without analgesia	20 hrs., 43 min.—	12 hrs., 24 min.
With analgesia	11 hrs., 59 min.—	9 hrs, 29 min.
Bag induction	7 hrs., 17 min.—	4 hrs., 26 min.

There are a few disadvantages in the use of enteral and parenteral analgesia.

1. The patient under profound analgesia is not open to suggestion.
2. It takes nearly an hour to become effective.
3. It cannot be controlled after once given, as can inhalation analgesia.

There are many advantages in the use of analgesia:

1. Simplicity of treatment.
2. The cost is very little.
3. It can be used in the home as well as in the hospital.
4. Loss of memory.
5. No apparent ill effect on mother or baby.
6. It shortens labor as a whole.
7. The mother is not exhausted.
8. A short third stage, with small loss of blood postpartum.
9. Patients under analgesia require less anesthetic for operative delivery.
10. The application of forceps and execution of repairs can often be done without an anesthetic.
11. It relaxes sphincters, while it interferes only slightly with uterine contractions.
12. The patient awakens with a sense of well-being, freedom from pain and very little fatigue.
13. It does away with most of the fear of parturition.
14. It helps prevent shock and relieves strain on the heart.
15. Scopolamine can be continued for hours without danger.

I am convinced, from my experience with obstetrical analgesia, that the advantages far exceed the disadvantages.

Dieting the Ulcer Patient*

BY SEALE HARRIS, M.D.
Birmingham, Ala.

In no field of medicine has there been greater advance in therapy in the last three decades than in the treatment of gastric and duodenal ulcer. Both gastro-enterologists and surgeons have participated in the improved methods of treatment that have resulted in the brilliant results that now may be expected to follow in the 80 to 90 per cent of ulcer patients who may be cured by dietary and medical management. In the remaining 10 to 20 per cent surgery should be curative except in a few of the neglected cases, and in a small proportion of the acute complications like perforations of the stomach or duodenum. Credit should be given also to nutritionists, most of whom are not physicians, who in their laboratory researches have unlocked, and placed at the disposal of the medical profession, secrets of metabolism and nutrition that perhaps represent the greatest achievement of the twentieth century for the good of all mankind.

The ulcer patient, whether medical or surgical, should have the benefit of what McCollum calls our "newer knowledge of nutrition." (1) His diet should be adjusted to his particular needs, not only as related to the proper amounts and proportions of proteins, carbohydrate, fats and minerals; its vitamin content should also be balanced. In the medical management of ulcers of the stomach and duodenum a relatively high fat diet seems to be the best to meet the indications for the treatment of the local pathological conditions; while food rich in vitamins will build up the general state of nutrition so that the ulcer will heal and the patient become more resistant to infections of the gastro-intestinal tract. (2).

It manifestly is not advisable to give the plethoric ulcer patient weighing 200 pounds the same diet as the undernourished 100 pound individual who happens to have an ulcer. The nutritional needs of the patient who has had a recent hemorrhage differ from those of the person who voluntary leaves his work for ulcer treatment. The adolescent ulcer patient needs a relatively higher protein diet than the adult after fifty, and in many other respects the personal equation cannot be overlooked in dieting ulcer patients.

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*Read by invitation before the Oklahoma State Medical Asociation, Oklahoma City, May 16, 1933.

These considerations seem to be lost sight of by most physicians in dieting their ulcer patients. There are almost as many diets employed in treating ulcers of the stomach and duodenum as there are clinicians specializing in gastro-intestinal diseases. Most of the diets which are used as a routine by the medical profession generally in treating ulcer patients, are modifications of the Lenhartz (3) diet, though they are given the names of various men who have popularized them. It seems to be the usual thing to try to make a diet to fit all ulcer patients, instead of preparing daily menus to suit the nutritional needs of each individual case. In other words, it appears to be the rule that when a physician makes a diagnosis of ulcer, he gives his patient some one of the diets published in text-books without considering the patient's age, weight and general condition, or even the variable pathological states of the ulcer-bearing stomach or duodenum.

FAULTY ROUTINE DIETS

In giving these routine diets no thought seems to be given as to whether the patient is receiving an excess, or a deficiency, of protein, carbohydrates and fats; and but little regard is given to the vitamin content of food. These routine diets that are given indiscriminately to ulcer patients are not always harmful immediately, though some of them for the first week contain a dangerously high ratio of fats to carbohydrates. Most of them, after the second week, contain an excess of proteins and carbohydrates and a deficiency of vitamins B and C; hence untoward remote results may occur from their prolonged use. The least criticism that can be made of the practice of routine dieting in ulcer is that it is unscientific. It is almost as important that the diet in gastric and duodenal ulcers should be arranged to meet each individual patient's needs as it is in preparing the daily menus for the diabetics.

It must be admitted, however, that many ulcer patients will get well clinically on any one of the ulcer diets provided he rests in bed for three or four weeks. It is also unquestionably true that many ulcers heal spontaneously without any effort at dieting, or at least heal to the extent that there are remissions of symptoms for weeks and months at a time. Nevertheless, a larger percentage of permanent cures of ulcers result when scientific methods are instituted for preparing daily menus suited to the nutritional needs of each individual patient.

SMALL FREQUENT FEEDINGS FOR FIRST WEEK

Partial physiological rest to the stomach activities and complete physical rest for the patient are important in the first two or three weeks in the treatment of ulcer. Lenhartz advised half-ounce feedings of an egg and milk mixture every hour from 7:00 A. M., increasing the amount by half ounce each day until, in six days, hourly three-ounce feedings are given. We think it better to consider the patient's habitual hours for meals and the feeding should be begun and ended about the time for his morning and evening meals, provided his hours for eating do not need regulating. Eight o'clock being the average we usually begin the feedings at that hour and end them at seven in the evening. If the patient's vocation requires him to begin work early, the first feeding is at 6:00 or 7:00 A. M., and the last ten hours later.

Some of the modifications of the Lenhartz diet, notably that of Sippy, (4) begins with three ounces of food every hour. This would seen to overload the stomach, which accounts for the need of using the tube for aspirating the stomach contents during the night. Beginning with half-ounce hourly feedings for ten hours and increasing the quantity by half ounce each day, with a maximum of three ounces in six days, it is rarely necessary to employ the stomach tube at night, as is the practice in the Sippy treatment.

THE USE OF FATS TO PROTECT THE ULCER

Lenhartz gave a high protein diet to "bind" the acid secreted by the stomach on the theory that it prevented the irritating effect of the gastric hyperacidity upon the ulcer. Rehfuss (5) has demonstrated that proteins do not bind the free hydrochloric acid in the stomach but, on the contrary, his highest acid readings were after feeding proteins. It therefore would seem that Lenhartz's high protein diet in ulcer was based upon a mistaken conception of gastric function. Rehfuss' observations also seem to prove that the time-honored custom of prescribing meats, eggs and other food of high protein content, in gastric hyperacidity, should be abandoned.

In my original modification of the Lenhartz diet, first employed in 1906, Conheim's (6) theory of a deficiency of gastric mucus was considered; and cream was added to the Lenhartz formula with the idea of keeping the ulcer coated with milk fat thus protecting it from the irritating effects of the excess of hydrochloric acid usually present in the stomach contents of the ulcer patient. Conheim gave olive oil to ulcer patients, claiming that it promoted healing of the ulcer by protecting the exposed nerve terminal in the open ulcer. It seemed to me that milk fat would have the same effect.

Some patients objected to the raw egg mixed with the milk and cream mixture in our modification of the Lenhartz diet; and for the past few years we have been omitting the egg. We find that the higher fat diet relieves the pain better than when the first few days' feedings contained eggs, and that the patient makes a more rapid clinical recovery. In 1906 we knew nothing about vitamins but it is known now that milk fat is rich in vitamin A, while there are no vitamins in olive oil. The addition of the cream to the milk, therefore, not only adds to the palatibility of the food formula, but is soothing to the ulcer and increases the general nutrition of the patient.

THE LOW CARBOHYDRATES DIET IN ULCER

Deeks, (7) in 1904, expressed the opinion that a diet excessive in sugars and starches is the most important etiological factor in ulcer, hyperchlorhydria and other gastric disorders. He, therefore, gave his ulcer patients a low carbohydrate diet and reported excellent results.

Whether or not Deeks is right in his theory, all authorities on nutrition agree that the average American diet contains a great excess of carbohydrates; and since most patients develop ulcer on a diet rich in bread, sweets, rice and potatoes, it would seem advisable to change their eating habits. We, therefore, have followed the suggestion of Deeks in using a low carbohydrate diet in treating ulcer; and believe that we have been getting better results since adopting that method.

In giving a low carbohydrate, relatively high fat diet in ulcer it should be remembered that "fats burn in the fire of the carbohydrates;" and the ketogenic-anti-ketogenic ratio of Woodyatt, i.e., 1 of carbohydrate to 1.5 of fats (in grams) should be considered in dieting any individual. A higher proportion of fats may result in a mild acidosis, particularly if there is impairment of the islet function of the pancreas, which, on account of the anatomical relations of the pancreas to the stomach and duodenum, probably is not frequent in ulcers of the stomach and duodenum. The proportion of one-third carbohydrates to two-thirds fats by calories as used by us is not nearly so high a fat diet as the Marsh Newberger diet in diabetes. When translated into grams the ketogenic-anti-ketogenic ratio in our averages at least 1.5 of carbohydrates to 1 of fat. The Sippy diet for the first week, i.e., one and one-half ounces of cream and one and one-half ounces of milk every hour for thirteen feedings a day, would give 199 grams (1791 calories) fat 24 grams (64 calories) carbohydrates, and 17.5 grams (70 calories) protein, a ketogenic-anti-ketogenic ratio of about 1 to 4. This is entirely too much fat to give in one day; too high a ratio for even a normal person and a dangerously high fat diet for an individual with a damaged pancreas. We have two cases of ulcer of the stomach in which the urine showed a high degree of acetone and diacetic acid, when the patients were consuming about one-fourth the amount of fat as in the first few days of the Sippy diet. It is possible that a high degree of acidosis would have followed in these patients had they received the routine Sippy diet the first week.

PROTEINS

It would seem rational in dieting ulcer patients to give no more protein than is needed for daily nutrition. Chittenden's experiments seem to show that the normal adult needs only about one-tenth his total amount of food, expressed in calories, in proteins. Others, particularly the Germans, think a higher proportion is necessary, some ranging as high as one-seventh. It is generally agreed, however, among nutrition experts, that the average well-nourished person needs no more than 75 grams (300 calories) of protein a day. In estimating our diets for ulcer patients we give the average person over fifty years of age, 60 grams protein daily, while young vigorous adults are given 75 to 80 grams. While ulcer is rare in adolescence it does occur under twenty and, if so, 100 or more grams of protein may be given a day. After hemorrhage, or if the patient is anaemic, it is advisable to give 100 or even 120 grams of protein a day. The Lenhartz ulcer diet containing 120 grams of protein a day was originally intended for use after hemorrhage and the results were so good that it was used by him and others routinely for all ulcer patients. In dieting the ulcer patient after a hemorrhage, we use the "Seale Harris modification of the Lenhartz diet" (8) adjusted to meet the caloric needs of the individual under treatment.

DIET FOR THE FIRST TWO WEEKS

We begin the diet of ulcer patients by giving on the first day, one-half ounce (15 c.c.) of milk (two-thirds) and cream (one-third) mixture, and increase one-half ounce each day until in six days three ounces are given every hour from 8:00 A. M. to 7:00 P. M. The proportion of two parts of milk to one of cream is maintained in all the feedings for the first two weeks. One-half ounce of strained orange juice is given at 9:00 P. M., increasing the amount by one-half ounce each day until, in six days, three ounces are given.

From the seventh to tenth day the diet is still under the basal requirement. The three-ounce feedings are given every two hours instead of at hourly intervals, with the addition of four tablespoonfuls of strained oatmeal, or one-half shredded wheat biscuit, or a thin slice whole wheat bread dry toast for breakfast and supper and one ounce scraped beef and one thin slice of whole bread dry toast for dinner.

From the eleventh to the fourteenth day, the diet is increased by giving a soft cooked egg for breakfast and supper and increasing the scraped beef to two ounces or substituting minced breast of chicken for dinner.

BASAL DIET DURING THIRD WEEK

Beginning the third week and so long as the patient is in bed, he is given his basal diet, unless he is underweight, then the amount of milk and cream is increased; or if he is overweight the cream is reduced so that his own fat will be burned. If he is anaemic the proteins are increased.

The basal diet in calories is calculated by multiplying the body weight in kilograms by 25, the number of calories needed daily per kilogram of body-weight while the patient is at rest in bed. Thus the ulcer patient weighing 154 pounds (70 kilograms) would require 1750 calories a day. Of this, 60 grams (240 calories) should be of protein and the remainder (1510) should be divided into one-third (504 calories) carbohydrate and two-thirds (1006 calories) of fats; or translated into grams, 128 grams of carbohydrate and 111.6 of fats.

If an increase in carbohydrates is desired it is easily made by adding to the basal diet enough milk, sugar or bread to make up the required number of grams. If the fat requirement is higher or lower than the basal diet the cream or butter is increased or reduced; and if there is anaemia, enough scraped beef or cheese is added to meet the estimated amount of protein for the patient's daily needs.

OPTIMAL DIET AFTER THIRD WEEK

Beginning when the ulcer patient has completed his three weeks' rest in bed his optimal diet should be given, i.e., the amount needed to maintain his strength and his normal weight while attending to his daily duties. The amount needed depends upon the amount of physical exertion performed in the day. It is estimated that the average business or professional man, or the housewife, requires about 35 calories per kilogram of body-weight. Thus the optimal diet for the adult of average height and weight, 154 pounds (70 kilograms) would be 70 times 35—2450 calories. Of this, 10 per cent, 245 calories (61 grams), should be proteins and of the remaining 2205 calories, one-third, 735 calories (183.5 grams), is carbohydrate and two-thirds, 1470 calories (163.3 grams), in fats.

The laborer employed in hard work will require about 50 calories per kilogram per day. Thus the brick-layer, or the farmer, or the golfer who plays eighteen holes a day will need about 3500 calories, divided as follows: 10 per cent, 350 calories (87.5 grams), protein and of the remaining 3150 calories, one-third, 1050 calories (262.5 grams), in carbohydrate and 2100 calories (233.3 grams), fat.

The ulcer patient's optimal diet should be continued for a year or more. It is not necessary for him to weigh and measure his food as may be done if he is in a hospital, but during his fourth week of treatment, he may be taught to estimate his diet so that he may order a meal in a restaurant or at home, containing approximately the proper amounts of proteins, carbohydrates and fats. It is not possible even when food is weighed and measured to tell exactly the number of calories of protein, carbohydrates and fats that some items contain, and since the organs concerned with digestion and nutrition normally have a wide range in function an error of 300 or 400 calories a day is not of moment.

The ulcer patient should weigh himself once a week. If he gains above his normal weight, cream and butter should be reduced; or if he is losing on his calculated optimal diet, a condition of infrequent occurrence, the diet may be increased until he is up to standard weight.

THE ROLE OF VITAMINS IN THE TREATMENT OF GASTRIC AND DUODENAL ULCERS (9)

The problem of lowered resistance, or of the conditions in the stomach or duodenum that predispose to infection, resulting in ulcer, is yet to be solved. However, some of the facts brought out in recent studies on nutrition, particularly with reference to diets deficient in vitamins, if applied to the eating habits of the American people may suggest methods of preventing and curing gastric and duodenal ulcers.

About 15 years ago, McCollum, Simons and Parsons (10) expressed the opinion that the role of food in the etiology of many diseases "involves increased susceptibility to infection, due to lowered resistance caused by faulty diet." Other workers in nutrition have come to the same conclusion.

McCarrison, (11) a British army surgeon, stationed in a remote region of the Himalaya Mountains, made some observations and experiments which may give the key to an important predisposing cause of ulcers of the stomach and duodenum, as well as to other abdominal diseases due to infections. McCarrison was impressed with the fact that the Himalayans rarely

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had ulcers of the stomach and duodenum, or other abdominal infections, though they lived under the most unsanitary conditions. He stated that in nine years practice among the Himalayans, during which time he performed more than 3,600 major operations, he "did not see a case of ulcer, or appendicitis, or of mucous colitis." In his investigations as to the cause of this remarkable freedom from abdominal diseases among a primitive people, he became convinced that the use of "natural foods, i. e., milk, eggs, grains, fruits and leafy vegetables," protected them against infection.

McCARRISON EXPERIMENTS

McCarrison's classic experiments seem to prove that foods of low vitamin value if used over long periods of time predispose to infections of the gastro-intestinal tract. He placed thirty-six healthy monkeys in two separate cages; twelve were fed on "natural" foods, i. e., milk, eggs, grains, fruits and leafy vegetables, and all of them remained healthy and free from gastro-intestinal diseases. He fed twenty-four monkeys on a sterilized carbohydrate diet, i. e., autoclaved rice, and most of them developed gastro-intestinal lesions, three out of ten autopsies having shown gastro ulcers present.

McCarrison is of the opinion that vitamins B and C serve to protect the gastro-intestinal tract from infections, and that the deleterious effects of a deficiency of these vitamins is enhanced when the food is improperly balanced, particularly when associated with an excess of carbohydrates. He states that "impairment of the protective resources of the gastro-intestinal mucosa against infecting agents may be due to hemorrhagic infiltration, to atrophy of the lymphoid cells, and to imperfect production of gastro-intestinal juices. This impairment not only results in infections of the mucous membrane itself, but also permits of the passage into the blood stream of micro-organisms from the bowels."

McCarrison showed, by illustrations of sections of various parts of the gastro-intestinal tract, that all these changes occur in animals fed on diets poor in vitamins and with an excess of carbohydrates. He asserts "that gastric and duodenal ulcer, colitis, and failure of colonic function can be produced experimentally by means of feeding animals on faulty food." He does not state that the faulty diet is the only cause of these gastro-intestinal conditions, but believes that pathogenic organisms are contributing factors. As proof that a faulty diet lowers resistance to infections, McCarrison fed endameba histolytica to healthy monkeys and failed to infect any of them, while those on a deficient diet became readily infected when given endameba histolytica organisms.

THE RELATION OF FAULTY DIETS TO ULCERS AND OTHER ABDOMINAL INFECTIONS

If McCarrison is right in his conclusions that a diet deficient in vitamins B and C predisposes to gastro-intestinal infections, many sugar saturated, vitamin starved Americans, i. e., those who live largely on white flour bread, white potatoes, white rice, lean meats, sugar saturated coffee, and sugar laden desserts, with candy and soft drinks between meals, would seem to be susceptible to ulcer and other abdominal diseases in which infection plays a part. The fact that more than 25 per cent of the patients in the general hospitals in the United States are admitted because of abdominal infections, i. e., appendicitis, gall bladder disease, ulcers of the stomach and intestines, and colitis, may be accounted for partly by the unbalanced diet of the American people.

Even casual observations of the eating habits of people in cafes, hotels, dining cars and their homes will reveal the fact that the starches and sugars and lean meats which are devoid of vitamins make up a large proportion of the diet of all classes of people, and that fruits and vegetables and milk, which are rich in vitamins, are eaten but sparingly by the masses. It is true that as a result of the increased interest in diet, educated, well informed people are eating better balanced meals than ever before; but all students of nutrition agree that the great fault in the diet of the average American family is the excessive use of vitamin-free carbohydrates.

A study of the quality and amounts of foods consumed by patients before they developed symptoms of ulcer may throw some light on the question as to whether or not a high carbohydrate, poor vitamin diet predisposes to the disease. It likewise would be of interest to study the food habits of ulcer patients in whom there were recurrences following operation or dietetic and medical treatments.

SUGAR SATURATED, VITAMIN STARVED AMERICANS

For a quarter of a century before McCarrison's classic experiments, and many years before Rosenow's work proving the relationship of infections to ulcer, Deeks contended that a high carbohydrate diet, particularly cane sugar products, was responsible for the increasing incidence of gastric and duodenal ulcers, but on the theory that the irritating effects of carbohydrate fermentation in the gastro-intestinal tract was the etiologic factor. Deeks has recently revised his views and feels that an added factor is the deficient vitamin diet of those who eat excessively of sugars and the foods of high starchy content that are now in common use.

Pari Passu with the increase in ulcers of the stomach and duodenum and other abdominal infections has been the increased consumption of sugar, syrups, white flour, white corn meal, white rice, white potatoes and other devitalized, or devitaminized, carbohydrates. The statistics on sugar consumption are available and are significant. Our consumption of sugar has increased nearly 500 per cent in the last half century, from 23 pounds (10 Kg.) per capita in 1870 to 106 pounds (48 Kg.) in 1926. In other words, every man, woman and child in the United States eats on an average one-third pound or about a teacupful, of sugar a day. Statistics on the increased consumption of other devitaminized carbohydrates were not available at the time this paper was prepared, but there can be no question of their increased use in the United States.

Concomitant with the unprecedented increase in the use of sugar and other devitaminized carbohydrates has been the passing, particularly in the rural districts, of the home garden, orchard, dairy and poultry yard, which were formerly important adjuncts of every farm and which supplied the protective foods required for perfect nutrition. When these facts are considered, sugar saturated, vitamin starved America presents a problem which should be considered seriously by the medical profession, and the laity should be given the facts regarding the dangers of an excessively high carbohydrate, low vitamin diet. It is only through an enlightened public opinion that the perverted appetite of a nation can be corrected.

VITAMINS A AND B

The recent advances in the study of nutrition have brought out some amazing facts, which should be applied in the treatment of ulcer. Without going into a discussion of the proven facts regarding vitamins, it is an accepted conclusion by nutrition experts that vitamin A protects against respiratory and eye infections, and that it stimulates nutrition generally is well known.

It would, therefore, seem that in dieting an ulcer patient the general nutrition of the patient should be considered and that his diet should be rich in vitamin A. Milk fat (cream, milk and butter) is the best source of vitamin A; though the green vegetables which should make up an important part of an ulcer diet after the first week are right in this protective food.

No one doubts that the anti-neuritic vitamin protects against beriberi; and McCollum thinks that there are hundreds of thousands of border-line cases of nervous maladies that occur because of a deficiency of vitamin B in the diet of the average American. The neurotic element, as a predisposing factor in the etiology of ulcer, is accepted by many gastro-enterologists; and since vitamin B is essential for perfect nutrition of the nervous system, whole wheat bread, vegetables and fruits—important sources of vitamin B—should be part of the diet of ulcer patients.

The removal of the adrenals in animals is frequently followed by the development of duodenal ulcer. It is known that in fatigue there is a deficiency of adrenal secretion and the injection of adrenalin relieves fatigue. McCarrison is of the opinion that vitamin B is necessary for proper adrenal function. There is also evidence suggesting that a deficiency of vitamins affects thyroid and other internal secretions. It therefore seems that since the general use of white flour, white meal, white rice, and white sugar, all devoid of vitamins, a deficiency of vitamin B in the average diet may have something to do with the apparent increase of duodenal ulcer during the last few decades.

VITAMIN C. PROTECTS AGAINST ABDOMINAL INFECTIONS

The anti-scorbutic vitamin, C, seems not only to protect against the disease known as scurvy, but against infections of the entire gastro-intestinal tract. It, therefore, would seem advisable for the ulcer patient to have a diet rich in vitamin C, with the view not only of aiding in healing the ulcer but also to keep him, as nearly as possible, in a state of perfect nutrition to prevent recurrence of the infection.

Fruit and raw vegetables are the best sources of vitamin C and since it has been proven that they do not increase gastric acidity, there is no reason why strained tomato juice, or the strained juice of other uncooked fruits and vegetables should not be begun early in the diet of the ulcer patients. Patients always like orange juice, it rarely disagrees, and there is no reason why it may not be given on the first day of treatment of ulcer cases. The first six days we give one feeding at 9:00 P. M. of the same quantity, from one-half to three ounces, of orange juice, with the milk and cream mixture. After the first week, orange juice, three ounces, is given with breakfast; and three ounces strained tomato juice with the evening meal. Since the heat necessary for canning tomatoes does not destroy vitamin C, if fresh tomatoes are not available the strained juice from canned tomatoes may be used. Some patients do not like tomato juice, but when told that it is both food and medicine, they take it and soon cultivate the taste for it. It is sometimes necessary to prove to the patient that the old idea of acid fruits and acid vegetables being incompatible with milk is a fallacy; but a few feedings of orange or tomato juice with meals made up largely of milk and cream, soon convince him that there is no such incompatibility.

DIET FOR THE AVERAGE ULCER PATIENT WEIGHING 154 POUNDS (70 KILOGRAMS)

It is not possible to prepare a diet suitable for all ulcer patients; but it is practicable to construct daily menus for the average ulcer patient, which may be modified, if necessary, to meet the varying nutritional needs of the individual under treatment. We use the following simplified diet for the average medical ulcer case. It is so constructed that it may be easily changed, increasing or decreasing the amounts of carbohydrates, proteins and fats to meet the estimated requirements in any given case.

SIMPLIFIED DIET FOR MEDICAL ULCER PATIENT

First Day:

Every hour from 7 A. M. to 7 P. M. one-half ounce of a mixture of one-third cream to two thirds milk (thirteen feedings). One half ounce strained orange juice after milk at 7 A. M., 1 P. M. and 7 P. M.

Second Day:

Every hour from 7 A. M. to 7 P. M., one ounce of a mixture of one-third cream and two-thirds milk. One ounce strained orange juice after milk at 7 A. M., 1 P. M. and 7 P. M.

Third Day:

Every hour from 7 A. M. to 7 P. M. (inclusive), one and one-half ounce of a mixture of one-third cream and two-thirds milk. One and one-half ounces strained orange juice after milk at 7 A. M., 1 P. M. and 7 P. M.

Fourth Day:

Every hour from 7 A. M. to 7 P. M. (inclusive), two ounces of a mixture of one-third cream and two-thirds milk. Two ounces of strained orange juice after milk at 7 A. M., 1 P. M. and 7 P. M.

Fifth Day:

Every hour from 7 A. M. to 7 P. M. (inclusive), two and one-half ounces of one-third cream and two-thirds milk. Two ounces strained orange juice after the 7 A. M., 1 P. M. and 7 P. M. milk.

Sixth Day:

Every hour from 7 A. M. to 7 P. M. (inclusive), three ounces of a mixture of one-third cream and two-thirds milk. Two ounces strained orange juice after milk at 7 A. M., 1 P. M. and 7 P. M.

Seventh to Tenth Days:

7 A. M., Breakfast: 3 ounces strained orange juice, 6 tablespoonfuls strained oatmeal or one shredded wheat biscuit, with 2 ounces cream, no sugar. 1 slice dry toast of whole wheat bread. One soft boiled egg. 1 pat butter. 3 ounces milk.

10 and 11 A. M.: 1 ounce of cream and 2 ounces of milk.

12 M., Dinner: 3 ounces strained tomato juice. 1 tablespoonful scraped beef, slightly broiled. 1 slice whole wheat bread, toasted. 1 pat butter. 3 ounces milk.

2, 3, 4 and 5 P. M.: 1 ounce of cream and 1 ounce of milk.

6 P. M., Supper: 3 ounces strained orange juice. 6 tablespoonfuls strained oatmeal or one shredded wheat biscuit, toasted or dry toast of whole wheat bread. 1 pat butter. 2 ounces cream. 1 soft boiled egg. 3 ounces milk.

Eleventh to Fourteenth Days:

7 A. M., Breakfast: 3 ounces strained orange juice. 6 tablespoonfuls strained oatmeal or one shredded wheat biscuit. 3 ounces cream. 1 soft boiled egg. 1 slice whole wheat bread toasted. 1 pat butter. 3 ounces milk.

9 and 11 A. M.: 3 ounces milk and 1 ounce cream.

12 M. Dinner: 3 ounces strained tomato juice. 2 large tablespoonfuls scraped beef or minced breast of chicken. 1 slice whole wheat dry toast. 1 pat butter. 2 tablespoonfuls ice cream—3 ounces milk and 1 ounce cream.

3 and 5 P. M.: 3 ounces milk and 1 ounce cream.

6 P. M., Supper: 3 ounces orange juice (strained). 1 soft boiled egg. 1 slice whole wheat bread, toasted. 1 pat butter. 3 ounces milk—2 ounces cream.

9 P. M.; 3 ounces milk and 2 ounces cream.

Fifteenth to Twenty-first Day:

7 A. M.; Breakfast: 3 ounces strained orange juice or strained grapefruit juice. 6 tablespoonfuls strained oatmeal, cream of wheat or other smooth cereal, no sugar. 3 ounces cream. One soft poached or soft boiled egg. One slice toast, whole wheat bread, and two pats of butter.

10 A. M.: 5 ounces milk (half cream).

12 M., Dinner: 4 ounces strained tomato juice or strained vegetable soup. 4 rounded tablespoonfuls scraped beef or minced breast of chicken. 4 rounded tablespoonfuls tender green vegetables, as turnip greens, spinach or string beans (mashed through a sieve.) One slice whole wheat bread toast; two pats butter. 1 rounded tablespoonful ice cream, cut custard, boiled custard or gelatine and cream.

3 P. M.: 5 ounces milk (half cream).

6.P. M., Supper: 4 ounces thick puree of peas or beans. 4 tablespoonfuls tender green vegetables as turnip greens, spinach or string beans mashed through a sieve. One slice whole wheat bread toast; two pats butter. 5 ounces milk. 3 ounces strained orange juice.

9 P. M.: 5 ounces milk (half cream).

Fourth, Fifth and Sixth Weeks:

8 A. M., Breakfast: 3 ounces strained orange juice. Six tablespoonfuls strained oatmeal, or one shredded wheat biscuit, or other cereal (no bran); three ounces cream—no sugar. One egg, soft boiled, poached or scrambled. One slice dry toast, whole wheat bread; two pats butter.

10 A. M.: 5 ounces of milk (half cream).

1 P. M., Dinner: 4 ounces strained tomato juice, clear broth or tomato broth, or strained vegetable soup. 4 to 6 rounded tablespoonfuls scraped beef or minced chicken or lamb. 4 to 6 tablespoonfuls turnip greens, spinach or string beans, or carrots, mashed through a sieve. One slice dry toast, whole wheat bread; two pats butter. 4 tablespoonfuls ice cream, boiled custard or gelatine.

4 P. M.: 5 ounces milk (half cream).

6 P. M., Supper: 4 ounces thick puree of green or dried peas or butter beans. 4 to 6 tablespoonfuls turnip greens, spinach or string beans or carrots, mashed through a sieve. One slice whole wheat bread toast; two pats butter. 4 ounces milk. 4 ounces strained orange juice.

9 P. M.: 5 ounces milk (half cream).

DIET AFTER SIX WEEKS

After six weeks the ulcer diet may be increased or decreased to keep the patient at his normal weight and in a perfect state of nutrition. With that end in view, while undergoing treatment he should be taught the simple facts regarding the vitamin values of food and the importance of continuing to eat a well balanced diet for the rest of his life. This does not mean food restriction, or what not to eat, as much as it does the necessity for taking a sufficient amount of food to keep up strength and endurance, as well as to eat enough of the protective foods to prevent a recurrence of the ulcer.

Especially should he be taught the dictum of McCollum's perfect nutritional day; i. e., that each normal person should drink from a pint to a quart of milk a day, and eat one raw fruit, one raw vegetable and two cooked leafy green vegetables daily. In addition to that, he should eat a reasonable amount of meat once a day, one piece of bread, preferably made of whole wheat flour, or country ground corn meal, with liberal quantities of butter, and then a dessert of fresh fruits, cooked or uncooked, without sugar, or perhaps ice cream, sherbet or other light sugar dessert at one meal. This diet gives the patient with healed ulcer a wide variety of the most palatable foods known to man. He soon realizes that on such a diet he receives the greatest enjoyment from eating; he is comfortable and efficient, and he experiences the joy of living more than he did when he ate without a thought of whether or not the quality and quantity of foods he consumed met his daily nutritional needs.

Diet after Six Weeks:

Breakfast: One fruit: strained orange or grapefruit or cantaloupe juice. One cereal: small portion of thoroughly cooked oatmeal, or other cereal, no bran, or one shredded wheat biscuit with one-half glass cream, no sugar. Eggs: One egg poached or soft boiled, or soft scrambled. Bread: One slice whole wheat bread toast, two or three pats butter; two tablespoonsful honey. Milk or cocoa: one glass milk or cup of hot cocoa.

Three Hours after Breakfast: 1 glass milk (one-third cream).

Dinner: Soup: Strained chicken, celery, vegetable, barley soup, or strained tomato juice. Tender meats (small portion): broiled, or baked, not fried; small portion of chicken, turkey, mutton, roast beef, bacon, thinly sliced boiled ham, or fish. Tender green and yellow vegetables (one variety of each): large serving spinach, turnip greens, tender string beans, cooked without much grease, carrots, squash, or young turnips. Butter or mayonnaise or olive oil and lemon juice may be used freely on vegetables after they have been cooked. Bread: one slice whole wheat bread or dry toast, or small piece of country ground corn meal bread, or one small corn muffin; two or three pats of butter. Milk: one glass milk or buttermilk (one-third cream). Dessert: soft part of baked apple, thoroughly ripe banana or other fruit with cream, no sugar. Ice cream or gelatine, or sherbet, twice a week.

Three Hours After Dinner: 1 glass milk.

Supper: Soup: puree (thick strained soup) of peas or beans, or oyster stew, no oysters. Raw vegetable salad: crisp lettuce (trim out tough stems); peeled tomatoes (cut tough centers); crisp cole slaw made of leafy part of tender cabbage (cut out the stems of the leaves). Olive oil and lemon juice or apple vinegar, or mayonnaise dressing may be used freely. Two crisp crackers. Cheese: four tablespoonsful home made or dairy made cottage or cream cheese, or the equivalent of two tablespoonsful of Swiss, Philadelphia or yellow American cheese, never cooked. Bread: one slice whole wheat bread or dry toast, or six crackers. Two or three pats butter. Milk: one glass sweet milk, or buttermilk (one-third cream). Dessert: strained orange juice, soft part baked apple, or very ripe banana and cream without sugar, or gelatine, or egg custard.

GENERAL INSTRUCTIONS TO THE CONVALESCENT ULCER PATIENT

The patient with ulcer while undergoing either medical or surgical treatment should be taught good eating habits. He should be shown the necessity of thorough mastication and told that the use of peppers, spices and condiments is an acquired and wholly unnecessary habit, which he should avoid. Hot biscuits, fresh rolls, and corn bread with tough crust, fried foods, pies, pastries, cakes and syrup should be eliminated from his dietry. Likewise, tough meats, green corn, strawberries and other berries, fruits with tough skins, and vegetables with woody fiber, such as old okra and asparagus, should be omitted. Coffee, tea, caffeine beverages, wines, beer, whisky or other alcoholic beverages, since they increase the gastric acidity, should not be used by the patient who has recovered from ulcer. Tobacco should also be interdicted.

It is not enough to tell the ulcer patient in general terms of the food which he should eat or which he must not take; he should be given a diet list with specific instructions regarding the portions of various dishes for each meal. The patient should also be taught that perfect digestion depends not only on having the proper quantity and quality of food but on other factors, such as overwork, worry, fear, anger, grief and other emotional disturbances which may predispose to ulcer.

While the dietary management of the patient with ulcer is most important, diet alone is not sufficient in treating the disease. Medicine, as indicated, should be employed. It is likewise necessary to examine every organ in the body for possible complications, because not frequently other diseases may be found.

It is specially important at the beginning of treatment to search for possible foci of infection in the nasal and accessory sinuses, the teeth, tonsils, gallbladder, pancreas, appendix, colon, recto-anal region, the prostatic gland in the male and the genital organs of the female, and the extremities. Of course, if a possible focus of infection is found, it should receive appropriate treatment and be removed if possible.

There is no need for the patient who has been cured of ulcer to regard himself in any way than as a normal person, but he should report at frequent intervals to his physician for advice regarding diet and other matters pertaining to personal hygiene.

SYSTEM OF HYGIENIC LIVING FOR THE HEALED ULCER PATIENT

The great majority of properly treated ulcer patients, whether medical or surgical, may look forward to becoming more efficient and to enjoying life more than they ever did before; provided they follow the same rule of personal hygiene that every man in health should observe. The ulcer patient perhaps will live longer than he would have had he not developed an ulcer, because if taught properly how to live, as the physician or surgeon has the opportunity of doing, he will take such good care of himself that he will be less susceptible to many of the infirmities of middle life, and old age will thus be deferred.

A copy of the outline of a system of hygienic living with copies of simplified diet list prepared to suit his particular needs is given to each of our ulcer patients before they are dismissed. (13)

1. The Proper Diet.—Three medium meals a day at the same hours, and a glass of milk between meals for at least three months after treatment; then one raw fruit, one raw vegetable, two cooked tender green vegetables, a pint to a quart of milk every day for the rest of the ulcer patient's life. Meat and light desserts are allowed not more than once a day; and enough bread, potatoes, rice, butter and other simple foods to maintain the normal weight. Thorough mastication of food is very important.

2. Work—Avoid Overwork.—Six to eight hours of honest work a day for five days a week and three or four hours on Saturday.

3. Sleep.—Eight or nine hours in bed at night; and lie down, sleep, if possible, for half an hour after the noon meal.

4. Exercise.—Fifteen minutes room exercise with windows wide open, before the morning bath. Follow the bath with massage (brisk rubbing with open hand) of the entire body until the skin is reddened. A walk of one or two miles in the open air and sunlight each day, or what is better, play golf two or three afternoons a week.

5. Recreation.—Eight hours for play includes morning exercises, bath, golf, or other outdoor exer-

cises; time for eating at least 1-2 hour for each meal, perhaps an hour for dinner and no work or serious reading after six o'clock in the afternoon. Frequent week-end trips and an annual vacation of from two weeks to a month every year.

6. Serenity.—Worry, anger, grief, abnormal fears, or other emotional disturbances will break down resistance to infections. Therefore, the cured ulcer patient should cultivate serenity in all the relations of life.

7. Eliminate the Toxins.—Coffee, tea and the so-called cola drinks, which contain caffeine, a habit forming drug, should not be used by the ulcer patient, except occasionally as a stimulant after losing sleep; or as a drug for headache or shock. Tobacco and alcohol are predisposing causes of ulcer and are quite injurious to the ulcer patient. Therefore, he should never use them in any quantity, even after his ulcer has been pronounced cured.

8. The Annual or Semi-annual Physical Examination.—The ulcer patient should report to his physician once a month for six months, and then for the rest of his life have an annual or semi-annual physical examination, with particular reference to a possible return of the ulcer; or the possible development of a cancer of the stomach, which, if diagnosed early, can be cured by operation.

Each section of the above outline of hygienic living is discussed with the patient and he is shown how he can conform his daily habits to a regular systematic regimen. He is also impressed with the fact that his future health, efficiency and happiness depend largely upon his living the simple hygienic life, and that he must do his part in preventing a recurrence of his ulcer.

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Public Health News

Dr Sanchez-Vigil, Inspector General of Sanitation in Nicaragua, Central America, arrived at the offices of the State Board of Health on August 8. He will spend three and one-half months here taking part in and studying the laboratory and county health work of the Mississippi State Board of Health. Following his work here, he will go to Johns Hopkins School of Hygiene and Public Health, Baltimore, where he will work on his Masters Degree in Public Health. Dr. Sanchez-Vigil is accompanied by his wife.

Mrs. Catherine R. Mayfield is now asociated with Dr. T. W. Kemmerer in the State Hygienic Laboratory. Mrs. Mayfield has an A. B. Degree from Mayfield (Tennessee) College, and a Masters Degree in Bacteriology and Hygiene from University of Chicago. She has worked in the City Laboratory of Savannah, Georgia; the Chicago Health Department; the Birmingham City Laboratory, and for the past six years was assistant director of the Alabama State Board of Health Laboratory.

On July 31, a meeting of the full-time health officers was held at the Robert E. Lee Hotel, Jackson. The main purpose of the conference was to explain the new reports which will be used from July 1, the beginning of the biennial period. The new report forms will simplify reporting.

During the past twenty-four months, the State Hygienic Laboratory manufactured and distributed free of charge to physicians and health oficers of this State 1,177,755 cc of typhoid vaccine.

Ming-Ting Young of the National Health Administration, Nanking, China, spent the last week of July and the first week of August with the Mississippi State Board of Health observing the sanitary engineering activities. Mr. Young was especially interested in the drainage work being done by Nelson H. Rector in some of the delta counties where malaria control is a major health problem.

Beginning in the Fall of 1932, efforts were made to use funds obtained from the Reconstruction Finance Corporation to provide labor for the construction of sanitary toilets. This work on private as well as public property was made possible early in January, 1933, when the State Board of Public Welfare ruled that such work even though done on private property "would be largely for the protection of others as much as for the owner of the property." With the issue clearly put before boards of supervisors and mayors, efforts were renewed to stimulate interest in privy construction using free labor. Assistance was first given to full-time county health departments, then to part-time counties in organizing construction work. During the past six months over 700 concrete toilets have been constructed in a number of the part-time counties.

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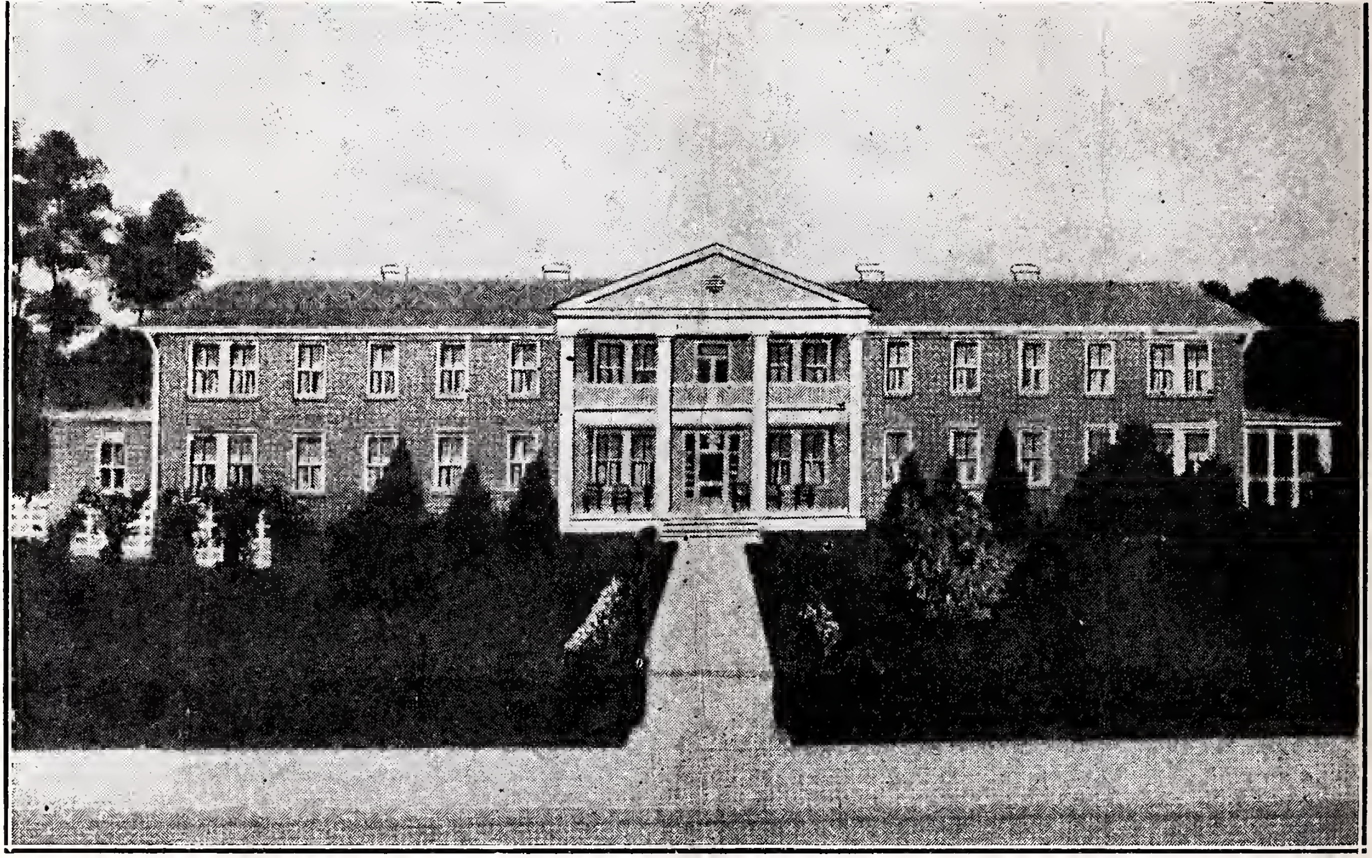

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The House by the Side of the Road

There are hermit souls that live withdrawn in the peace of their self-content;
There are souls, like stars, that dwell apart, in a fellowless firmament;
There are pioneer souls that blaze their paths where highways never ran;
But let me live by the side of the road and be a friend to man.

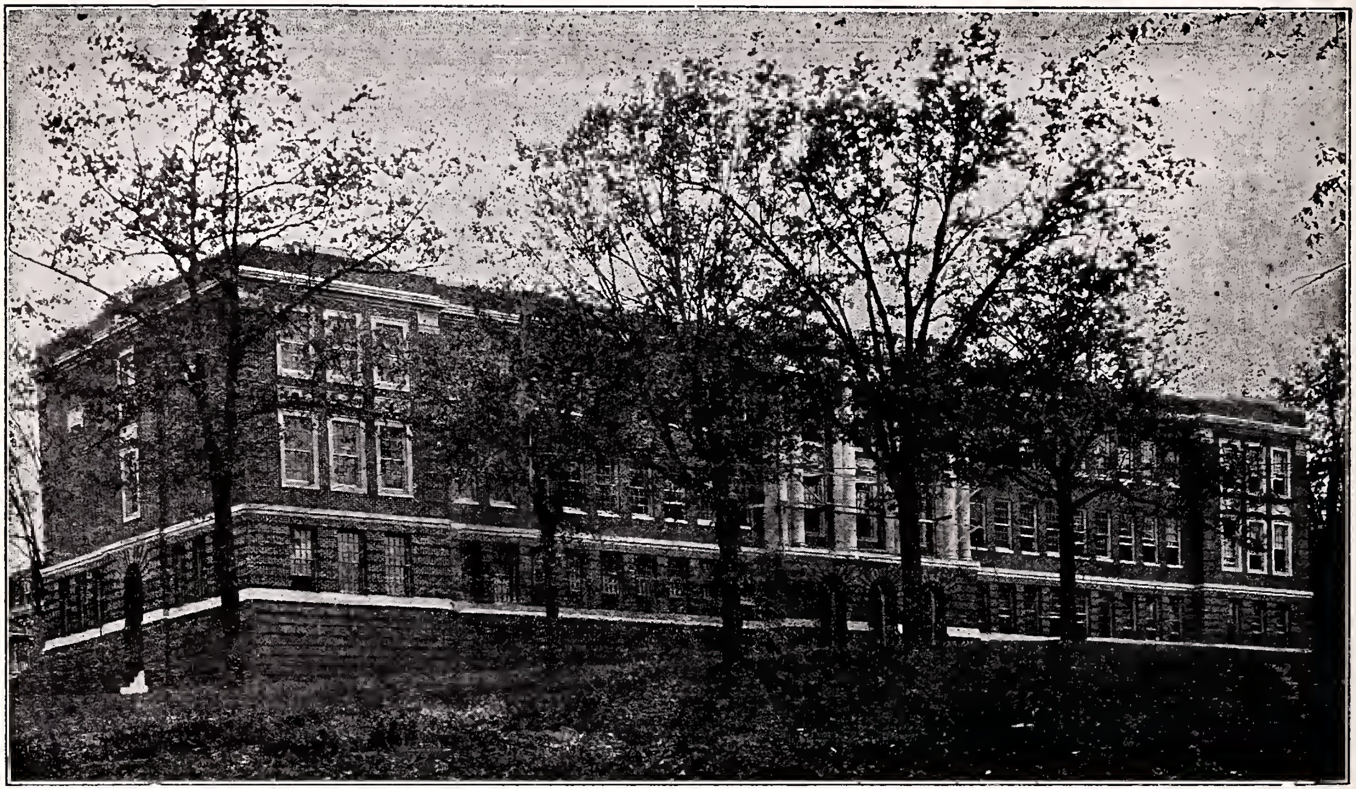
Let me live in a house by the side of the road, where the race of men go by,
The men who are good and the men who are bad, as good and as bad as I.
I would not sit in the scorner's seat, or hurl the cynic's ban;
Let me live in a house by the side of the road and be a friend to man.

I see from my house by the the side of the road, by the side of the highway of life,
The men who press with the ardor of hope, the men who are faint with the strife;
But I turn not away from their smiles nor their tears, both parts of an infinite plan;
Let me live in my house by the side of the road and be a friend to man.

I know there are brook-gladdened meadows ahead and mountains of weari-some height,
That the road passes on through the long afternoon and stretches away to the night.
But still I rejoice when the travelers rejoice, and weep with the strangers that moan,
Nor live in my house by the side of the road like a man who dwells alone.

Let me live in my house by the side of the road, where the race of men go by;
They are good, they are bad, they are weak, they are strong, wise, foolish—so am I;
Then why should I sit in the scorner's seat, or hurl the cynic's ban?
Let me live in my house by the side of the road and be a friend to man.

—Sam Walter Foss.



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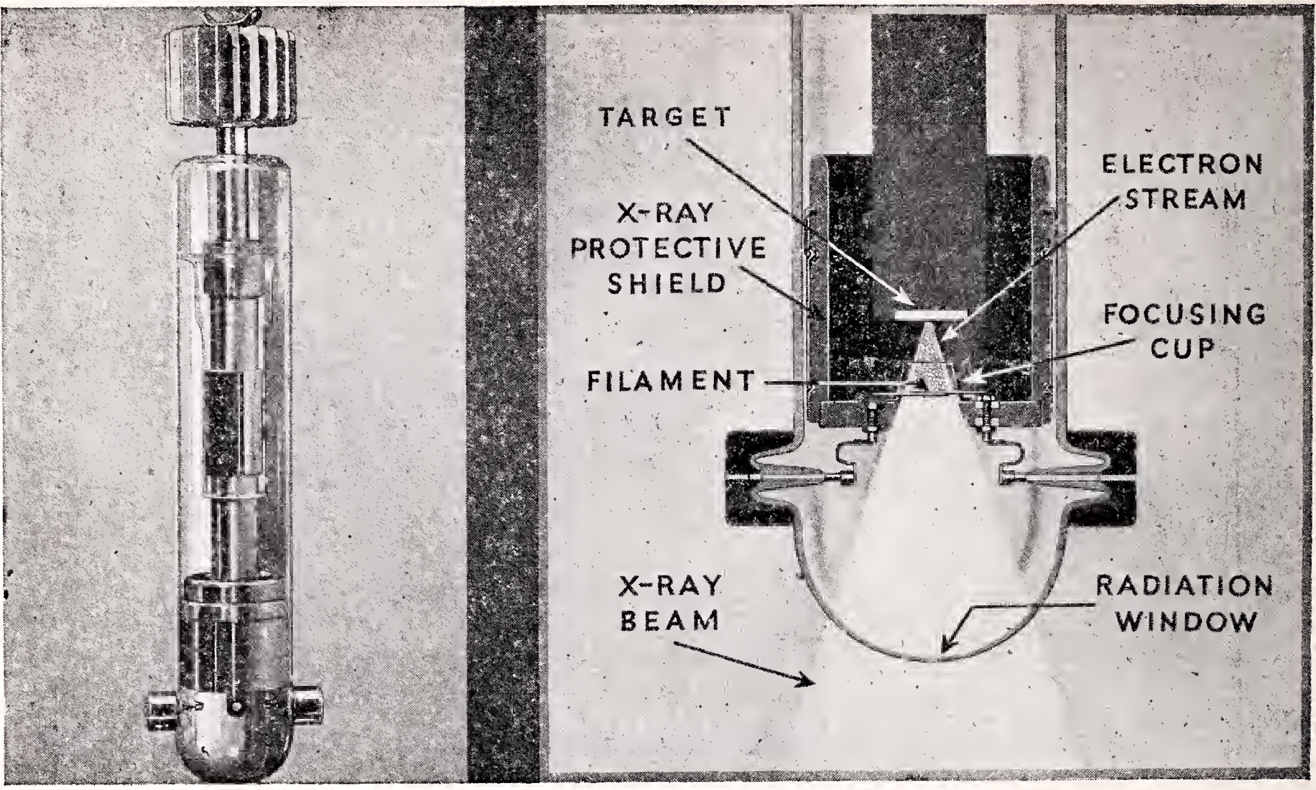

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THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN OF THE NORTHEAST MISSISSIPPI 13-COUNTY MEDICAL SOCIETY

—AND—

NORTH MISSISSIPPI MEDICAL SOCIETY

—AND—

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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Mississippi State Medical Association:

President—James M. Acker, Jr.—Aberdeen
President-Elect—Dr. J. W. D. Dicks—Natchez
Secretary—Dr. T. M. Dye—Clarksdale

Only a few years ago even the leaders in the medical profession were advocating short cuts to a medical diploma, advocating leaving off the college degree, the literary degree and get into the practice. A shortage of doctors was the cry. And some thought that literary training was not so much needed in the armamentarium of the doctor. The doctor needed to know his pills, he needed to know the shape of every cell of some small part of the human anatomy and the diseases that might attack this division but from whence they came and whither they went was none of his trouble. Now the cry is an "over production of doctors." The old cry was "get into the practice early and specialize." We now have twenty-five thousand more doctors in the United States than we need, it is estimated. We have four times as many specialists as we need or can afford. We are face to face with a problem. What brought it about, what is the solution, are pertinent questions. Super-centralization, super-specialization, and the lack of a broad enough education, multiplied cost of a medical education and office equipment answers a part of the first question. The machine age, the ability for one man to serve twice as many people or more answers some more of it. Now what is the outlook for the future, what is the plan? We have chased the germ like a dog chasing a rabbit for more than half a century. The medical profession has been very aggressive. But we have not studied the human organism in all of his relations and with all of his new problems as we should have. We have got so far ahead of the rank and file with scientific knowledge that we have come to a standstill until general medical education is furnished to them. If every person realized the importance of a yearly examination we would be short of doctors. Our medical schools must teach the students a new form of practice. The doctor must have the broadest education of any profession. The human organism must be studied in all of his relations to his environment. We must study psychology and mental radiology. We must help men to adjust themselves to their surroundings. We must educate the masses on germ life, their habitat, mode and manner of living. We are very proud of our Hygeia. It is fine, but it will never do the job. The country weekly newspaper through the medical center of the small hospital must render this service regardless of who says what.

The September meeting was held in Calhoun City. The attendance was large, about one hundred. We had a number of distinguished and appreciated visitors. Dr. J. A. Crisler, Jr., of Memphis was the out-of-town essayist. His paper was able in content, scholarly in structure and logical in presentation. There were a number of distinguished and appreciated visitors present. Calhoun City is the home of our able, active and popular president, Dr. McGahey. Calhoun is the home of Lieut. Governor Murphree who has been, is and will continue to be the staunch friend of the community hospital. The governor looked in upon the meeting and smiled upon us. Mr. Minor who won many friends as a candidate for Highway Commissioner lives in Calhoun and did more than a child's part in seeing that we had a big feed. The doctors of Calhoun county certainly did themselves credit at this meeting. Everything was in order and moved in fine style. It was surely a friendly and a democratic atmosphere. The scientific program was fine. It was certainly a happy and a profitable session.

The Delta Medical Society held its big fall session as Belzoni on Oct. 11. Dr. G. C. Higdon presided ably as president. Dr. F. M. Acree is the genial spirit and the able secretary of this society. Dr. McLester of Birmingham was the visiting essayist. The papers were unusually fine. We expect to give you opportunity to read them in the next issue of the journal. Our good friend and college comrade R. H. Nason, attorney, gave the welcome address and presided as toastmaster out at "four mile" lake where the big banquet was set. It was good to be there. Dr. G. M. Barnes was very active in entertaining the meeting. He has a warm heart and a philosophical mind and he loves to do good unto others. It does you good like a medicine to imbibe that big hearted Delta spirit and congeniality. Dr. R. C. Smith of Drew was elected the new president. He is a native of Union county, we believe. He is a stalwart personality in the medical profession. He is able in practice and upright in his living. The society can follow him with all safety. We deeply appreciated our invitation to the Delta meeting.

President Roosevelt will not find a more efficient man for Surgeon General than Dr. Felix J. Underwood, executive Secretary of the Mississippi State Board of Health. He has outstanding executive ability. He is an organizer. He is qualified. He has the endurance for work. He is versatile. He is able to meet any and all types of men and situation. Dr. Underwood is the man for Surgeon General. The United States needs his services and Mississippi deserves the honor.

The information we have yet to get far exceeds that which we already have, Calhoun City demonstrated this. It was her first time to entertain the society. What Calhoun City does she surely does well.

We are delighted that the Ole Miss medical school is back on a firm foundation and that its future is bright. Congratulations to Dr. Mull, Chancellor Hume, and Governor Conner and his board of trustees.

On the front page you have read the poem, "The house by the side of the road." In our next issue we will have a reply to this poem. These two are very fine. The reply is a regular doctor's poem.

If you have never attended a session of the Delta Medical Society you are yet scientifically and fraternally undernourished.

The December meeting of the North East Mississippi Medical Society will be held in Tupelo. This is the center and here we always get a big crowd.

We appreciate the many good letters we are receiving saying nice things about The Mississippi Doctor.

Malaria is still one of our big medical problems. It has been for centuries. It is not yet solved by any means. In Northeast Mississippi malaria seems to be more prevalent than it has been for many years. The medical profession is renewing its efforts to conquer this great human enemy. Malaria continues to cause many deaths each year and it is one of the major economical problems of the South. The Mississippi Doctor is trying to give to its readers all the new methods and drugs that are being tried at this time to combat this disease. You will read with much interest and profit the article by Dr. Bethea taken from the International Medical Digest on this subject.

We have received a copy of Clinical Medicine and Surgery published in North Chicago, Ill. Its editor is Dr. George B. Lake, its editorial staff is composed of Drs. Dorland, Woodbury, Schmitz, Waddington, Gilmore, Asgis, Achard, Biehn, and Kirby. It seems to cover the field of medicine and surgery and radiology. This information is well presented by departments. It also deals with many of our medical problems. We receive many medical journals, but none more interesting than this one.

You will note the announcement in this issue of the journal of a Sanitary Pharacists Slab. This was invented by Joe Johnson of Booneville. It would seem that this invention comes at a propitious time. The people are sanitary minded and this tendency should insure a rapid sale of this handy and improved piece of furniture for the drug man.

Know malaria in all of its ramifications in this year 1933 and many other diagnoses will clear up.

Subscribe for The Mississippi Doctor at one dollar per year, get a better journal for less money.

In January we plan to publish five thousand copies of The Mississippi Doctor. This should be of interest to advertisers.

We must grow out of the hard times by investment. Send us one dollar for The Mississippi Doctor for twelve months.

The doctor should be the most broadly educated man of any profession, and he should have a human heart and a human interest.

It would be a big step forward for hospitals to teach nurses, internes and doctors to economize as they go along.

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Southbridge Pays High Honor to American Optical Company Century of Achievement

Labor Day Week witnessed a gala celebration in Southbridge. It attracted the notice of Lowell Thomas who on his Coast-to-Coast radio broadcast of the daily news of September 6 said:

> "In a little town of Massachusetts they are celebrating a birthday today—the 100th anniversary of the making of "Specs." Just 100 years ago American Optical Company began the manufacture of eyeglasses at the quaint Massachusetts town of Southbridge. Everyone there is celebrating, with banquets and parades, quite a Spectacle."

1833 PRESENTED TO 1933
AMERICAN OPTICAL COMPANY
AS A TESTIMONIAL OF APPRECIATION FOR
100 YEARS OF ACTIVE AND UNSELFISH
DEVOTION TO THE WELFARE OF THIS
COMMUNITY AND IN HONOR OF A CENTURY
OF DISTINGUISHED ACCOMPLISHMENT IN
PROVIDING BETTER VISION FOR THE
PEOPLES OF THE WORLD
BY THE BUSINESS AND PROFESSIONAL MEN
OF SOUTHBRIDGE

On behalf of the entire community, the Company officials were presented with a large bronze plaque in lasting honor of its 100th anniversary. The plaque was received on behalf of the Company by Albert B. Wells, who after a great ovation, and words of appreciation and faith in the future of Southbridge, announced that he and his brothers, acting upon a wish and with funds provided by their father in 1911, would establish the George W. Wells Foundation, in honor of the founder of the Company. The late George W. Wells provided $100,000 to be used to perpetuate his memory, to benefit the employees of American Optical Company and for such other worthy causes as may arise. The fund, although the interest has been used from time to time for charitable purposes, now amounts to $250,000, and provision is made in the terms of the Foundation to expand it to $500,000.

Thus with lasting evidences of deep mutual esteem, the community of Southbridge and its leading industry, joined in a memorable celebration of 100 years of optical craftmanship.

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To the Members of the Mississippi State Medical Association

I trust our campaign for new members is now in full swing in all sections of the state. There should be no let-up in our endeavor to bring all eligible physicians in our state into organized medicine by February 1st, 1934. If there was ever a time when organized medicine was needed in the medical profession it is today.

From speakers on the rostrum and through the public press we have heard a great deal in recent times about the 'forgotten man'. The 'new deal' that we now have was put through to aid the forgotten man. But, I am afraid the original forgotten man is still unremembered. In all the plans for rehabilitation of society, I know of no plan to help this original forgotten man, the doctor. History seems to have assigned the doctor this unenviable role and no one takes the trouble to remember him.

During all these days of financial stress the doctor has plodded on his way, giving his services to suffering humanity without thought of how he could obtain sufficient funds to care for his own family. He met the storm, erect, face to the front shoulders back, and chin up. He has been knocked down but never out, and is always up and ready to renew the fight without ever a thought for himself.

He pays his taxes as best he can and contributes his money to organized charity, the same as any other good citizen. Yet, he is imposed upon by the public; and even federal, state, and organized charities expect him to give in addition, his professional skill free of charge—something that is not expected of any other class of our citizens.

This is a situation that only organized effort on the part of the medical profession can remedy. As individuals we cannot hope to correct the situation. It is only by banding ourselves into a strong militant organzation that we can hope to make our voice heard in an effort to correct the abuses that we suffer from.

A survey of our membership in the state on February 1st, 1933 shows only a percentage of a little over 55 per cent. This should be at least 90 per cent. We should endeavor to bring every eligible physician in this state into organized medicine and keep him in. The duty of helping build up our component societies rests on every individual member.

Paraphrasng the memorable words of Lord Nelson in the Battle of Trafalgar, "Organized medicine expects every man to do his duty in this campaign." So let's all pull together for the largest membership in the history of our organization. Let's build our foundation, the component societies, as strong as it is possible to make it, to the end that organized medicine may be in a position to bring about the rehabiliation of the forgotten man, the doctor, during this crisis through which our country is passing.

J. W. D. DICKS, President.

FOR SALE—Guinea Pigs, all sizes, prices reasonable, prompt shipments. Write Mrs. Fannie G. Green, Booneville, Miss.

Resolution

WHEREAS, the sales tax levied on the gross income of physicians of Mississippi by the State Legislature at its last regular session works an injustice on and imposes a discriminating burden upon the physicians of the State who are already paying privilege tax, income tax, and the regular sales tax imposed on all articles purchased just as other citizens, and

WHEREAS, it should be borne in mind that the physicians take care of the indigent sick, the cost of which would devolve upon the State if the medical profession did not take care of such charity work, and

WHEREAS, the physicians of the State feel that the general sales tax is fair and equitable, but they know that a double imposition of such tax is not fair and is not in accord with the spirit of justice; and physicians feel that the Legislature would not have imposed such a tax a year ago but for the fact that the Legislature was being fought, with its back against the wall, by a certain well-organized group or groups of taxpayers in the State, and apparently the Legislature feared the effect of exempting the professional group on sales tax on gross income, in addition to regular income tax. Now since practically all of the men composing the special group or groups which were organized against the passage of the sales tax are now in favor of it, is felt that the Legislature could well afford to correct the injustice of levying two sales taxes—one on income from services rendered and another on expenditures of physicians;

Therefore, be it resolved by the House of Delegates of the Mississippi State Medical Association in annual session assembled in Jackson, Miss., on the eleventh day of May, 1933, that since the clause of the present sales tax law as enacted by the Legislature on the income of physicians works an unwarranted burden and is unfair and discriminatory in that physicians are paying double sales tax, and that their services are given freely to the indigent, the Mississippi Legislature is hereby respectfully petitioned to exempt the medical profession from the operation of that part of the sales tax which levies a tax on the gross income of physicians. The medical profession has nothing to sell except its services, regardless of whether the purchaser is able to pay for such services.

Be it further resolved that in view of the fact that cities and towns in the State impose a privilege tax on physicians, that the state and county privilege tax be reduced fifty per cent. If this action is taken by the Legislature, the medical profession of the State will cheerfully pay the privilege tax and the general sales tax imposed on other classes of citizens of the State.

Also, be it further resolved that the secretary of this Association send a copy of these resolutions to the secretary of each local medical society requesting that he bring the matter before the first meeting of the local medical society for ratification there, and that the president of each local society appoint a committee of three physicians considered to be best adapted or suited, who are willing, to take the matter up promptly and vigorously with the members of the Mississippi Legislature of the county and if possible get their support pledged.

And, be it further resolved that this resolution supersede the resolution passed by this House on May 9, 1933, which was the first session of the House of Delegates.

Delta Medical Society Meets

The annual fall meeting of the Delta Medical Society met Wednesday, October 11, 2:00 P. M. in the Court House, Belzoni, Mississippi.

OFFICERS

President, Dr. J. C. Higdon, Belzoni, Miss.; Vice-Presidents, Bolivar County, A. M. Wynne, Merigold, Washington County, O. H. Beck, Greenville, Sunflower County, R. C. Smith, Drew, Humphreys County, T. J. Barclay, Isola, Leflore County, W. E. Denman, Greenwood; F. M. Acree, Secretary and Treasurer.

PROGRAM

2:00 P. M. Meeting Called to Order by Dr. J. C. Higdon, President.

Invocation by Rev. A. T. Pope.

Address of Welcome by B. P. Brooks.

Response by Dr. H. A. Gamble.

Business Session.

Scientific Program—

Glandular Therapy in the Treatment of Functional Menstrual Disorders by Dr. James E. Wadlington, Belzoni.

Osteomyelitis by Dr. John A. Crawford, Greenwood.

Spinal Anesthesia by Dr. G. W. Eubanks, Greenville.

Atabrine and Plasmochin in the Treatment of Malaria by Dr. A. M. Wynne, Merigold.

Programs for Medical Meetings by Dr. R. C. Smith, Drew.

The Neurotic Patient by Dr. James S. McLester, Birmingham, Ala.

Barbecue at "Four Mile Lake" 7 P. M.

Woman's Auxiliary Meets

The Semi-Annual meeting of the Woman's Auxiliary to Delta Medical Society Belzoni, Mississippi met in the Methodist Church Annex Wednesday, October 11, 2:30 P. M.

Bridge tea at Woman's Club 4:00 P. M.

Barbecue Supper with Delta Society.

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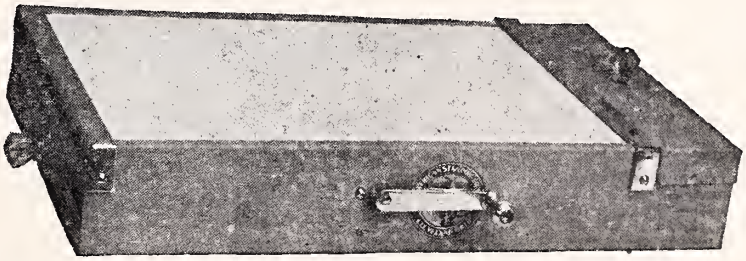

We present to you the likeness of a new and useful invention known as Pharmacists Sanitary Ointment Slab and Pill Tile, patented Sept. 27, 1933. Pharmacists will enjoy their work much better after using one of these machines.

We hope to put this machine on the market through the wholesale druggists.

For further information write

JOE W. JOHNSON, Owner
Booneville, Miss.

Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

N. R. A.

Since the issue of our last number every city and hamlet has been visited by the "Blue Eagle." The women have been privileged to "put over" the part assignd to them—pledging consumers to trade only where he spreads his protecting wings.

Serving as Lieutenant-General in my community has taken 100 per cent of my time for about two weeks—but the results have been most satisfactory. I have never been prouder of a badge than the one worn during this campaign. It now rests among my treasured souvenirs. In checking over the women leaders in this campaign I am proud to find the names of doctors' wives in many many places.

Our husbands are on duty twenty-four hours a day and it is our privilege to do our bit to bring back prosperity so that his long hours may be better reccompensed.

May the Blue Eagle hover lower and lower over all.

HEALTH EDUCATION

If any group of doctors' wives is looking about for some suggested programs to pass on to their Federated Club or P. T. A. maybe the following would be helpful: Health examination of the family and servants: correction of defects, immunization against smallpox, diphtheria, typhoid, personal and home hygiene, the menace of the "common cold", communicable diseases and control, study envelope of A. M. A. Auxiliary No. 4.; malaria, cause and remedy of cause, hookworm, cause and control, pellagra, cause and remedy and the results to individuals, families and communities of rampages and continuance of these last three diseases. Prenatal care and cancer also should be included. Every community has a doctor who would be glad to appear before groups for intelligent instructions along these lines and many others.

SOME PURPOSES OF A MEDICAL AUXILIARY

First and foremost in the minds of the officers and members of any Medical Auxiliary is to be of service to the doctors and be ever ready to respond to any call of the Medical Societies, and "promote acquaintanceship, harmony and unity among the families of physicians."

The A. M. A. has asked that the various State organizations take over the job of pushing "Hygeia." If this highly educational magazine could be placed in every school and library in Mississippi we feel sure results, as the years go by would be far reaching. No mind is so susceptible as the youthful one. We have many concrete examples of that when we read letters received by Dr. Boswell from the little chaps that have had the rare privilege of a few months at Preventorium.

The wives of doctors in each and every community are listed among "the leaders"—called upon every whip-stick by city dads to put "over" this and that. Such women are bound to "keep up" and be the help mate her doctor husband needs. We are, as an organization, asked to carry our ideals and activities to other women's organizations that community and State unity be promoted. Isn't it all worth while and shouldn't our doctors encourage their wives to join us promptly? Did I hear all of you say "Aye"? Fine! The Ayes have it.

PRESIDENT-ELECT PARKER

Again the Medical Auxiliary is fortunate in having, in our state President-elect, Dr. E. C. Parker, a sincere booster and an ideal "Auxiliary Husband." Mrs. Parker has served most efficiently the office of State Treasurer for three years and has had his full co-operation in all of her local and State activities. Drs. Dick and Parker are good old scouts. just as Dr. Acker was a dandy. We salute you, our friends and co-workers.

PLAN ESSAY CONTEST IN 7th AND 8th GRADES ON "PREVENTORIUM"

Plans are in the making toward fostering an essay contest in the 7th and 8th grades of our Mississippi schools on "Our Preventorium." The Woman's Auxiliary to the State Medical Association feel that no line of Health Education could reach as many children o fsusceptible age. We solicit the co-operation of our Doctors' wives throughout the State to help carry this on through either local auxiliaries or other women's organizations. We hope they have full details for next month's issue.

AUXILIARY ROSTER

As soon as our State President, Mrs. Frank Van Alstine, whips in shape a complete roster of the organized Auxilaries of the State we will be glad to give space in this department to print same. "Who's Who" in Auxiliary work will be of interest to many of our readers, and we hope, stimulate activity among the wives in unorganized districts.

Elbert Hubbard said: "If you have health you probably will be happy; and if you have health and happiness you will have all the wealth you need, if not all you want."

Hubbard was a wise man, and if in the face of conditions today we can remain serene and happy it will be a big aid in keeping our health unimpaired. The doctors' wives, perhaps more than any other group, have a double responsibility right now. We must "carry on" in the face of greatly reduced and in many cases inadequate incomes, and strive to keep up our husband's morale as he works night and day for the people of our various communities. All praise to wives "doing their part."

DR. E. C. ELLETT
DR. R. O. RYCHENER
1720 Exchange Building
Memphis, Tenn.

The Economy of Health

BY FELIX J. UNDERWOOD, M.D.,
Mississippi State Board of Health
Jackson, Miss.

The dictionary tells us that economy means frugality, prudence, saving, thrift; and that **HEALTH** is freedom from illness or pain.

What a world we would have if every one were free of sickness or pain! Pain and sickness wear down our mortal frames and bring them to untimely graves. They cause sorrow, heartaches, and grief. When the aged pass, we are reconciled by the thought that their work is done—whether for good or for bad; but, when the young die, we feel that something amiss has been done, or gross neglect has prevailed.

The saddest drama that can be witnessed is the death of a child. Innocent, full of life, with a promise of three score and ten years to live, why should it be cut down in its tender years?

Why should the boy or girl just passing into manhood or blossoming into young womanhood be cut off from a world happy to them and full of promise? That is a sad sight too. Sadder, still, is the untimely end of a mother, whose life is wrapped up in love and concern for her young.

Some have received consolation for their loss in the assumption that this is the Lord's work—that when one so young must pass away, it is His will. We do not believe that this is so. We believe it is the Lord's will that they do not die. The Good Book has promised three score years and ten to all.

Too much has been blamed on the Lord for loss of loved ones, when, in fact, He may be holding us at fault for neglect to put into use the knowledge we have gained to thwart disease and to avoid preventable tragedies.

We, who live in this Golden Age of preventive medicine, should be accounted guilty of serious neglect if we think it incumbent upon us to economize to such an extent that we must save a dollar of the public funds at the expense of the life of a child. No county in Mississippi can spend too much money on the health of its citizens. The danger lies in failing to spend enough. It is said, and it is true, that we are in the midst of a financial depression—all the greater reason for protecting the health of the thousands in Mississippi who, on account of the depression, are not able to protect themselves. Preserving the public health is an act of economy. Prevention is cheaper than disease and death.

One dollar invested for health brings a return of five hundred per cent in the saving of life and happiness among our people.

Seventeen years ago there were six thousand five hundred deaths in Mississippi from five diseases—typhoid fever, malaria, dystentery, tuberculosis, and pellagra. Public health work in the State from year to year since that time has saved forty thousand five hundred lives from these five causes alone. At one thousand dollars a life, the saving in dollars reads $40,500,000. Would you take a thousand dollars for the life of your baby? No, a life is worth more than a thousand dollars.

Let us take a glimpse at a few of the activities of the full-time health departments operating in Mississippi last year. The reports show that they exam-

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ined over thirteen thousand infant and preschool children and eighty-three thousand school children; that twenty-six thousand physical defects were corrected; and that a total of six hundred and nineteen thousand inoculations were given against typhoid fever, diphtheria, and smallpox. The total activities of the full-time health departments for last year, if bought and paid for individually, would have cost the individuals concerned at least one million dollars. A goodly proportion of these citizens were not financially able to buy this service.

During the past year, 22,000 people died in Mississippi. In the light of modern science, over six thousand of these deaths were preventable. Six thousand others died from cancer, Bright's disease, apoplexy, and diseases of the heart—human frailties that may yet be conquered through patient research that never ceases.

Health work is not only an investment for the individual citizen, but its results is one of the greatest advertisements for the county or commonwealth. Just a few years ago, Mississippi was shunned by outsiders and considered a dangerous section in which to live. It was thought to be a great swamp exhaling miasma and death and that none but its own citizenry could withstand its atmosphere. It is true that many suffered and died because of such diseases as typhoid fever, malaria, tuberculosis, and other ills; but statistics now reveal our death rate to be almost the lowest in the country. Our white death rate last year was only 8.5 per thousand population. Only one other state, so far as we can learn, had a lower rate. At the same time from the information we have on hand, only two other states had higher birth rates than Mississippi in 1931.

There are now in Mississippi twenty-nine full-time health departments waging war against preventable diseases; and, as long as the State and the counties will hold up the hands of the Board of Health, we shall see the number gradually increasing until the citizens of every county will have the protection afforded by all the discoveries of science in combating diseases incident to our State.

It is greatly to be regretted that the Legislature saw fit to reduce the State health appropriation thirty-three and one-third per cent. The Board of Health has always used its funds economically and to the best advantage. We contend that no outlay of public funds brings in a greater return than those devoted to public health in the State of Mississippi. A greater degree of protection is needed during a depression than at any other time.

It is hoped that our full-time counties will ponder long and carefully before they consider it wise to save by reducing the support of their health departments.

The advantages of a health department may be easily seen if a brief outline of its activities be portrayed. Take for example a report of the Copiah County Health Department.

Some of the chief activities and accomplishments of the Copiah County Health Department, which consists of a doctor, nurse, and sanitary inspector, for the twelve months period ending June 30, 1932:

Total number of lectures given 364.

Total number of sanitary inspections 3000.

Visits to cases of communicable diseases 752.

Cases properly isolated 119.

Number contacts quarantined 201.

2393 Schick tested to determine their susceptibility to diphtheria.

2543 dairy cows were tuberculin tested as a result of the health department activities.

8885 doses of toxin-antitoxin, or toxoid, were administered for the prevention of diphtheria.

A total of 2025 infants and preschool children were protected against this disease.

14,710 doses of typhoid vaccine were administered

4,187 people were protected against smallpox.

228 expectant mothers, who are patients of midwives, were under the supervision of the health department.

340 preschool and 2,566 school children were given the regular physical examination for defects which are likely to interfere with the growth and development of the child.

A total of 311 corrections of physical defects were secured.

During the year, a total of 241 radical changes were made in the methods of excreta disposal.

All of this service was rendered to the people of th County at a cost of less than $3,500.00 to the County.

In conclusion, we feel that it is but simple justice to give proper credit to the part-time health officers of the State, who, in fact, in many cases have laid the foundations for the beneficent programs now in force. In many counties of the State the part-time health officer is paid but a paltry pittance for his labors; and in almost every case he gives services greatly in excess of his pay. In the early days when the State Board of Health was endeavoring to lay the foundations for larger health programs, the part-time health officers gave freely of their time and influence to push the cause along. Many of these health officers urge their counties to put on the full-time program, knowing well that it is the policy of the State Board of Health to employ an outsider in every case to serve as a full-time health officer. They have served as our pioneers on the rough, dangerous frontier of public health; they pave the way for public health civilization as truly as Boone, Crockett, and others did in our American wilderness more than one hundred years ago. Today the results of the labors of part-time health officers are comparable in the life-saving business of public health endeavor in Mississippi and everywhere to the work of American pioneers. We have now reached the stage where every county supervisor should see that his people have full-time health protection and we express the hope that every one regardless of politics will be man enough to do his fall duty in this regard.

Responsibilities gravitate to the person who can shoulder them, and power flows to the man who knows how.

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A Case of Normal Obstetrics Out in the Country

BY ELIAM B. BURNS, M.D.
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This paper is prefaced by this explanation: After I had agreed to prepare a paper for this program I talked to some of my friends as to what would be best. Everyone said that something short and practical would be in best taste. From this I was impressed that a practical paper that I could compile from my own learning and experience would be more palatable than a synthetic paper that might be compiled from the literature but about which I knew very little and which would have little practical value—hence this paper.

Believing that a normal labor is attended by more dangers than an uncomplicated operation for appendicitis, and with the belief that the woman in labor away out in the country requires and deserves as much care as the woman in the city or the hospital who has been educated to take nothing less than the best preparation and care, the following suggestions are offered: The Paper of Dr. H. W. Knight, "Midwifery Customs In India" which appears in the September number of the New Orleans Medical and Surgical Journal, together with the fact that many women in the rural districts of Mississippi are left for untrained hands to clean up after labors prompt this paper.

Dr. Joseph B. DeLee in his Principles and Practice of Obstetrics says "Labor should be a normal function of the human female. It is so intricate, however, that a great many irregularities may mark its course. As a matter of fact, a really normal labor without the slightest irregularities is rare. In general, we call those cases normal where we do not have to interfere, where the woman expels the child and placenta herself, and she and the child live. Strictly speaking, however, unless the woman's condition is exactly as good as it was before conception and the child perfectly well and uninjured, the labor may not be called normal. Such cases as these are excessively rare. The boundaries between eutocia and dystocia are very narrow."

Every woman who subjects herself to the inconveniences of a nine months pregnancy should be allowed to have her own baby delivered alive and well, and every baby should have, above all things, its own mother spared to nurse, nurture and rear it.

The care of the woman during pregnancy, periodic examinations of urine and general health of the expectant mother goes without saying.

Following is a list of the things a country doctor should have for his country patient in labor: A kit containing sterile haemostats, scissors, sponges, sterile rubber gloves, cotton sterile gauze and cord tape. A bottle of tincture merthiolate or 5 per cent mercu-

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rochrome, lysol and 10 per cent neosilvol with dropper stopper, Ether cone and bottle of chloroform and a sharp razor. The family will furnish a rubber sheet, 12 to 18 layers of newspapers and clean zinc tub.

When the doctor arrives at the bedside he should examine the patient's heart, but since he has been seeing her regularly at his office, he is fully acquainted with her and he knows that her organs are functioning nomally. From the frequency and severity ot the uterine contractions he will know when to prepare and place the patient.

When the contractions are five minutes or less apart the tub is brought in and slipped under the edge of the bed and some 12 or 18 thicknesses of newspaper are placed on the side of the bed over the rubber sheet one third of the width hanging off the edge of the bed over the tub. The papers are covered with a boiled sheet. The patient is then placed on the papers in the sitting posture and as far out on the edge of the bed as she can sit. Now with two straight chairs or boxes of the same height as the chairs facing each other and against the opposite sides of the tub, the patient gently lies back across the bed on her pillows and her feet are elevated to the seats of the chairs. During this act she is kept covered with a clean sheet, now she is slipped near enough to the edge of the bed so that the hips are over the tub. In this position the knees are widely separated and external genitals bathed with warm water to which a teaspoonful of lysol has been added to half gallon of water. While the parts are still wet with the lysol solution the patient is carefully shaved. On completing the shaving the doctor takes a piece of cotton or piece of gauze in the sponge forceps and saturating it with the antiseptic of choice he carefully swabs the external genitalia and then with a new and clean swab he gently swabs out the vagina. The patient is now ready for vaginal examination and with gloved fingers the accoucher gently feels out the vagina to find an L. O. A.

As soon as the cervix is dilated two fingers in either primipara or multipara ½ C. C. of pituitary extract is given deep into the gluteal muscle. This materially hastens the labor by strengthening the contractions of the upper or muscular part and dilating the lower or dilating part of the uterus. As soon as the occiput reaches the perineum, chloroform anesthesia is started and the amount given is governed by the rapidity of the descent of the head, enough chloroform should be given so that the patient is unconscious for a few minutes prior to and during the time of the completion of the second state of labor. When the baby is born it is rested on the knees of an assistant seated on a box or chair close up in front of the patient. At the proper time a hemostat is clamped onto the cord, the cord cut and allowed to hang down into the tub. An attendant is left to watch the patient with the strict injunction to watch and listen for an unusual amount of blood which may escape into the tub and to report the same to the doctor.

The baby is carried to the stove and quickly oiled and bathed with warm water and after it is clean the cord is then tied the proper length, is recut, powdered and bandage applied and the eyes treated. The baby is then turned over to the attendant to finish dressing it.

The doctor now returns to the woman and the placenta is delivered by the Crede method and placenta and clots are dropped into the tub. A basin of hot water and clean towel are brought and the soiled parts are carefully cleaned. The patient is turned on her left side and her back cleaned and in this position a large vaginal pad is slipped in place and held by attendant while the doctor puts a "T" binder in place. Now the patient is returned to her back and binder is pulled from under her on the left side and pinned snugly around her body, the tail piece pulled down and brought forward and pinned to the lower edge of the binder in front. The patient is lifted carefully back onto the bed, the soiled paper mat slipped into the tub and the case is closed.

Should the doctor attend to the above minute and simple details when they are purely the duties of a nurse? Well, this case is out in the country and the family in all probability will not pay the doctor much less a nurse—no nurse is present, so it becomes the duty of the doctor, rather than risk an infection at the hands of the uninformed laity.

The advantages of this procedure over the usual method of keeping the patient in bed are: (1) It greatly lessens the dangers of infection. (2) Post partum hemorrhage may be seen and heard in time to save the woman. (3) Filth from bladder, bowel and bag of waters is cared for as it accumulates. (4) It is much more convenient for the doctor to clean up the patient in this position than on the bed. (5) Soiling the bed dressings is reduced to a minimum thereby sparing heavy washing of quilts, etc., there are two principal criticisms of the procedure, (1) In the long cases of the primipara, the patient may become tired, but if she does, she may be led about the room, rested upon a chair and in time returned to the proper position. (2) In cold weather with our open houses the buttocks and legs may become chilled; in the latter case the patient must be delivered covered in bed.

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Who well lives, long lives, for this age of ours should not be numbered by years, days and hours.—Du Bartas.

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Cardiac Pain

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The heart is supposed to be the seat of life and love, and that is the reason that pain about the heart creates such consternation in the individual's mind. I think when one's attention is attracted to his heart by pain, whether it be organic or functional, it creates in his mind the fact that very likely he will have a sudden demise and pass on to his long home. The location of the pain is the thing that makes it look serious, because I have so often asked my patients if the pain had been in the knee would they have come to see me, and in most instances they said they would not.

Cardiac pain can be divided into angina pectoris and cardiac neuroses, or primary and secondary, or organic and functional.

ETIOLOGY

What is angina and what is the mechanism of pain and death? What is the pathology?

Huchard enumerated 64 theories as to the cause of angina. All theories center around heart spasm: arterial tension, coronary spasm, sclerosis, etc. Mackensie thought it was a symptom of myocardial exhaustion and compared it to leg pain of intermittent claudication. Albutt thought it was tension within the aorta. We shall speak of the term angina as that condition in which death may take place at any time, and it is our purpose to differentiate other types of pain which do not threaten the individual's existence. Lambert of New York thinks angina is due to stretching of the coronaries. He says cardiac pain is brought about by exertion and that it is also brought about by going into a cold room or getting between cold sheets. Cold produces contraction of the skin vessels, a sudden increase of blood pressure, a stimulation of the sympathetico-adrenal action with adrenin secretion and acceleration of the heart action and quickening of the metabolism to increase heat production. Cold, therefore, produces increased cardiac demands for which the myocardial muscles may be inadequate and pain occurs, as above stated. I heard Sir Thomas Lewis say that all these theories could possibly be disproved and that he thought ischemia of the muscles or lack of oxygen was not the cause of the pain. He thought it was physio-chemical or chemical in origin. His theory is that chemical changes occur in the muscles as a result of work and that these changes give rise to a change in the tissue spaces outside the muscle fibers, and that this substance is cause of pain. He calls it histamin-like substances. He thinks that he has proven this by other experiments of a highly technical nature.

I believe that the pain is caused by insufficiency of the coronary circulation. There are several causes of the insufficiency of circulation of the coronaries

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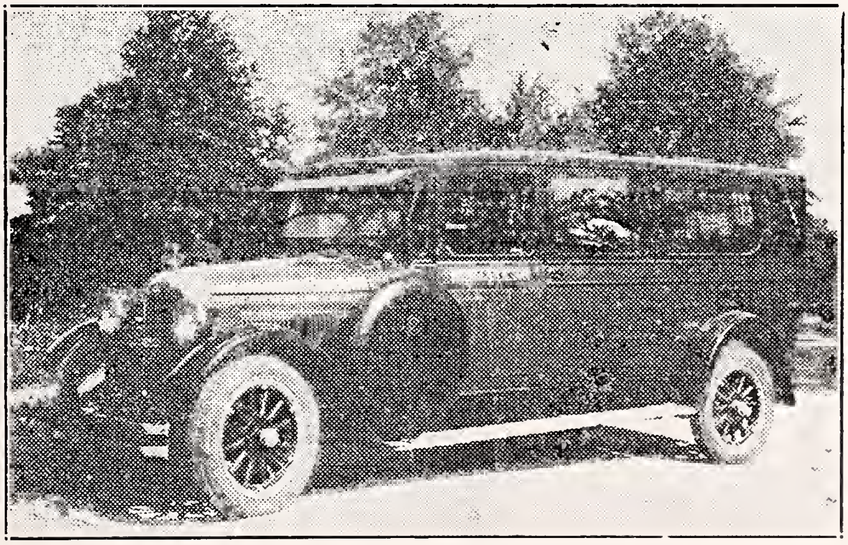

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and myocardium:

I.. Sclerosis of the coronaries themselves, infectious emboli and thrombosis;

2. Or, as White says, the coronaries may be blocked at their mouths, partially or completely, by swelling or vegetation on the valves of the aorta;

3. By aortic regurgitation with low diastolic pressure, as it is the diastolic pressure that maintains the coronary circulation;

4. In severe anemias with too little oxygen in the blood;

5. Or there may be too great a demand on the heart muscle from exertion or the rapid heart from thyrotoxicosis.

Tobacco may be an exciting cause and, if I had angina pectoris, I would not use it. Angina is getting to be so common that it is alarming. I think it is the speed of life that we are going and I think it is time to call a halt, Chinese do not have angina and French people have it very rarely, but the Americans and English are very prone to get it. Males are more frequently affected than females in the proportion of three to one, and the age is usually past middle life. Before thirty it is very rare. In 95 per cent of the cases there is some coronary involvement or sclerosis.

CONDITIONS WHICH SIMULATE ANGINA: We must rule out erosive aneurysm, ordinary pleurisy, pericarditis, tabetic pains, Herpes Zoster (shingles), nerve root pains described by Gunther. There are many pains that come under the category of nervous pains, fatigue pain, or cardiac neuroses.

DIFFERENTIAL DIAGNOSIS: Laboratory tests and physical examination may not show anything positive, as we are diagnosing a system complex. X-ray and electrocardiograms are often helpful in corroborating the clinical findings and, at times, supply our only positive evidence of myocardial or aortic disease. A positive Wassermann will help in a doubtful case. The type of patient helps somewhat. Males in middle age, or beyond, who work under high pressure are certainly headed for angina. Younger subjects or women at the menopause and neurotic types are prone to have cardiac neurosis. High blood pressure or cardiac murmurs that show valve damage help very little, except that they may show the condition of the aorta, coronaries or myocardium. We must admit that an individual with disease of these organs can have cardiac neurosis. Gallop rhythm, poor heart sounds or other and graver types of disordered heart action may point definitely to myocardial disease. Pain lasting over thirty minutes, with a fall in blood pressure, leucocytosis, pericardial friction may clinch the diagnosis of coronary occlusion. Above, all, the history is most important.

Certain families belong to the cardio-vascular type, or, on the other hand, they may be of the neurotic type. When we see either type we know almost what we are going to find. Past history may show infection, either rheumatic, streptococcic or the syphilitic.

HABITS

The anginal patients usually smoke, eat or drink immoderately and the nervous type are usually very abstemious in the use of these drugs and stimulants. Ordinarily tobacco hurts very few people, yet, it seems at times to be an exciting cause of angina. The man who may eventually get effort syndrome is also likely to be moderate in the use of these things. The ability to distinguish between true angina and a cardiac neurosis taxes the diagnostic acumen of the cardiologist more than anything else in the medical field. Going further into the symptomatology of cardiac neurosis, we find associated with the pain tremulousness, sweating, palpitation and breathlessness, which are aggravated by minor degrees of effort or excitement. Quite often we have giddiness, faintness and the peculiar type of stabbing precordial pain that marks the neurotic individual and leads to sub-inefficiency for manual occupation. Many times the symptoms show up after a minor accident and the physician makes the diagnosis of strained heart and the insurance company catches "Hail Columbia." It is necessary to recognize this as a common disorder and also so often misinterpreted. It is not heart disease but rather a disturbance of the sympathetic nervous system in which the heart shares. This disturbance is based on toxic states, anxiety conditions, and inherited or acquired nervous instability. Strain may be a factor sometimes but too often it is the associated anxiety neurosis born of ideas of a strained heart and all the dread which it implies to the lay mind and which keeps up the condition. All too often he becomes a doctor-made neurasthenic. Should a diagnosis of strained or leaky heart be made in these cases, the prognosis as regards life is good, but for manual work or economic efficiency it is poor. In these cases the heart does not enlarge or degenerate as does the thyroid heart.

Hyperthyroidism must be considered as an underlying cause. Certainly the symptoms are similar, but in the effort syndrome or pure neurotic types the thyroid does not enlarge over a period of years, exophthalmos does not occur, nor is the heart so gravely affected. Sympathetic disturbance is the rule in thyroid intoxication, and it is well recognized that anxiety conditions and toxic states may bring on thyrotoxicosis. Hyperthyroidism is more apparent than real. We should bear in mind that this is not a primary heart disease but rather a disturbance of nervous control.

We must avoid the use of the word "strained heart" or "leaky valve," unless we make a non-technical explanation of the significance of the real condition at the same time.

Precordial pain may be harmless or serious, but in either case it causes much perturbation in the mind of the patient. Pain in the anterior part of the left chest is thought by nervous patients to be due to the heart, and, in many instances, this idea is fixed and, it is like the poor, it stays with them. The sturdier type of patient thinks it is due to indigestion, and both are prone to be wrong. The former worry themselves needlessly, and the latter court disaster through neglect or bravado.

True angina is based on arterial, coronary, or mycardial disease. Cardiac neurosis is based on hypersensitive nervous system, inherent or acquired. There is a combination of psychological and physical disharmony which is. the cause of ill health. Many times these individuals are regarded as nuisances rather than sick people. We must realize that they are entitled to skillful management the same as if they had organic disease. They are usually young men or women, the latter predominating. It is rare to find true angina in a young person, i.e., excluding obvious heart lesions. They have vague symptoms, variously located, and the pain itself being of a stabbing or aching character. It is not substernal, neither is it crushing, as is the case in true angina. It comes without sufficient cause, and often when they are in bed or in a chair, and they are restless, while the patient with true angina is immobile. True anginal attacks do come in bed but they are easily recognized. There is a certain looseness and inconsistency, and many times, an exaggeration in the description of the pain which stamps the neurotic. In true angina it is important to get all the details of the first attack. The pain is usually substernal or precordial and severe enough to pull the patient up. There is a sense of substernal oppression and it may become a gripping constriction and may extend around the ribs. The degree of apprehension will be proportionate to the severity of the pain and the temperament of the patient. The pain may radiate down the left arm or both arms or it may radiate to the lower jaw and neck and, sometimes, over the epigastrium—the so-called abdominal angina. I have seen it in both wrists many times. If the pain lasts over thirty minutes it is not angina but coronary occlusion. This is a clinical entity and in most instances it can be diagnosed during life.

The development of our knowledge of coronary occlusion is modern history. Pathologists and clinicians have been observing cases of ruptured hearts, aneurysm of the ventricles and occlusion of the coronaries for years. These conditions were regarded as interesting pathologic processes and it was thought that they were impossible for recognition during life. In fact, it was thought that recovery from coronary occlusion was impossible. It is only in the last fifteen years that this condition has been diagnosed during life. I do not believe that Sir William Osler knew how to differentiate between angina and coronary thrombosis. His Lumleian lectures on angina were delivered about 1910. Sir James McKinsie, in his last work on angina pectoris, does not make the clinical differentiation between the two conditions. Dock was the first American physician to make the antemortem diagnosis and postmortem verification. He also had noticed the pericardial friction rub and its importance as a physical sign of the disease. The two Russian authors, Abratzow and Straschesko, diagnosed two cases out of three antemortem. They called attention to many of the pathognomonic signs of coronary occlusion, such as gallop rhythm, Cheyne-Stokes breathing, pericardial friction, mural thrombi, fever, etc. In 1912 our own Dr. J. B. Herrick wrote that it was a clinical entity and could be diagnosed during life and that it need not end with death. This publication did not arouse the interest that it merited. After several years other papers appeared on the subject by the same author; in fact, at the same time Levine and Trantor reported two cases, one of which was diagnosed antemortem, and they did not know that Herrick's paper had been published.

During this period Libman, than whom no greater man or clinician ever lived in this country, was familiar with the condition but did not publish his findings. Levine and Trantor pointed out that where the pain was located in the epigastrium and associated with fever and leucocytosis, it might be mistaken for an upper abdominal condition. It was 1925 before the subject of coronary occlusion was considered, seriously, in England.

Sam Levine says that the infectious diseases play no part in the production of coronary occlusion. Focal infections, he says, never cause the disease. Of course, most cases of occlusion follow preceeding attacks of angina, yet, I have seen it cause death during the first and only attack of cardiac pain—often found in diabetics. Hypertension is the most important etiological factor in the development of occlusion. Arteriosclerosis, localized or general, is found in almost every case.

Since Pardee published his articles from 1920 to 1925 we are more able to diagnose coronary occlusion, with the help of the electrocardiogram. We are also able to tell by the electrocardiogram the localization of the infarction.

Gross, in his masterful studies, dissections and injections of the human heart, has added much to our knowledge of the normal coronary circulation. Slides will be shown illustrating the coronary circulation in health and in coronary thrombosis.

Detailed description have been given by Barnes and Whitton of the Mayo Clinic. They show that the branches of the right coronary artery in the right ventricle spread out in a plane parallel with the surface of the heart. The branches of both the left and the right coronary arteries supply the left ventricle, arising at right angles from the inferior surface of the main trunks and penetrates straight through the thickened myocardium. Infarction is much more common in the left ventricle than the right. This is thought to be due to the perpendicular type of branching of the coronary arteries in the left ventricle. Infarction in the posterior surface of the left ventricle is more frequent than has been previously recognized. Infarction in the anterior surface of the left ventricle, where it is supplied by the left coronary artery, is associated frequently with changes in the T waves of the electrocardiogram in leads one and two. Infarction in the posterior surface of the left ventricle and posterior part of the interventricular septum in the left, usually supplied by the right coronary artery, is associated usually with changes in the T waves in leads two and three.

The prognosis will depend on the size of the coronary branch that is occluded, and the degree of anastemosis. It is usually found in patients past middle age and one who had pain in the chest due to effort, especially after meals. From the moment the attacks begin until weeks have passed death may come at any time. The pain is terrible and, as I have called to your attention before, it is crushing and vise-like and worse than anything the patient has ever had. He has a fear of impending death. Many of them can only gasp for breath and oftentimes they pray for death. The pain is usually substernal and over the precordium, and may or may not radiate down the left arm. Sometimes it is found in the epigastrium and may resemble an acute abdomen, gall stone colic, or appendicitis. They may have epigastric pain and occasionally slight jaundice, and they may have dyspnea, which is rare in any acute abdominal condition. They look like they have been shot through the guts and get into a state of profound shock. The face is gray, or lead colored, the expression is one of acute anxiety. There is usually a cold, clammy sweat and at times nausea and vomiting. The pulse is weak and thready in contrast to the full pulse on other examinations. It is often irregular and there may be extra systoles. There is usually a striking fall in blood pressure and I have seen it fall to 60 mm. systolic from higher figures. The diastolic pressure is hard to get and the pulse pressure is small. If the anterior branch of the coronary is involved, there is hard pericardial friction. The temperature rises in the first twenty-four hours to 100 to 102.2 degrees and there is always a leucocytosis of from 10 to 25 thousand; 80 to 90 polys. A mural thrombus on the wall of the left ventricle and emboli may strike the brain, spleen, and intestinal tract. When the infarction is found on the septum, mural thrombi may form on the wall of both ventricles. Rupture of the heart is common and occurs about the fifth, seventh, ninth and twelfth day. One out of five have this to happen. Coronary occlusion is often followed by congestive heart failure. The fall in blood pressure may be permanent and, if the patient lives two weeks, he usually gets well. Very frequently the attack of coronary occlusion marks the end of angina pectoris and the beginning of cardiac decompensation.

In our treatment, and I mean treatment of true angina, we should use tact and judgment and, above all, we should put all the personality that we have into explaining the disease entity, showing them, as Thayer said, that the pain is a red flag and not a smashup. I think the word angina should not be used for obvious reasons. I always tell them of the cases that I have seen that did not die. Tell them of the cases that have lived ten, fifteen or twenty years, including John Hunter's case. I think we are justified in looking on the bright side, because I have often said in my lecture on "Signs of Impending Death" that there is no way to predict the sudden end of coronary occlusion or post-operative thrombi. Since the patient may die in any attack or may live for years, we should encourage them all we can. Then we should teach them to get under the amount of work or exercise that brings on the pain. Don't let them do anything that brings it about, and by all means teach them how to start the day and how to finish it, not to hurry or worry. People who develop angina are in the habit of starting the day with a rush. Constipation should be overcome and straining at stool must be tabooed. Cut out smoking entirely is my advice to the angina patient. When the pain gets so severe and comes so often as to be disabling, I put them to bed. If the attacks are severe enough and a diagnosis of coronary occlusion is made, then a long rest must be prescribed. It is said that it takes an infarcted myocardium six weeks to heal. If this is true, we can set a definite time for them to stay in bed. Many times we find the pain is gone and, if the patient realizes that he is fifty per cent less efficient than he was before, and if he stays there, he may live a long time. I have had several cases operated (cervical sympathectomy) and the results have been good.

The drugs that are useful are: Nitrites, Morphia, Whiskey, Metaphyllin, Theominal, Theocin and Theocalcin. Treatment of coronary thrombosis is different. Morphine should be given in good size doses—¼ to ½ grain. 1-100 grain nitroglycerin may be given. Mild grades of circulatory failure want to be watched, only giving sedatives and rest, but the severer cases of collapse must be treated vigorously. Oxygen tent, if available (and they are nearly always available now), should be used constantly as long as there is cyanosis. If there is much pulmonary congestion or edema present, venesection should be performed even though the blood pressure be low. Caffein and Sodium Benzoat can be given as indicated, and there is a drug that raises blood pressure known as "Metrozol". This can be given where the blood pressure has fallen and where cardiac failure is eminent.

The treatment of auricular fibrillation, of heart block, and of ventricular tachycardia in patients with myocardial complications is full of uncertainties. Unless the patient's general circulatory condition warns the physician that continuance of the arrhythimia will certainly prove fatal, it is probably wisest to wait. When forced to intervene, I believe that small doses of digitalis are indicated and it should be given hypodermically. I would use digitalis in preference to quinidine, but Sam Levine reports a case of ventricular tachycardia that was broken by the use of large doses of quinidine sulphate (22½ grains five times in twenty-four hours). Barium chloride may be considered as a last resort in instances of heart block, and I believe that at times it is life saving. During the greatest danger of cardiac rupture, that is, on the fifth, seventh, ninth, and twelfth day, we should be careful in the use of stimulants.

In the general care of patients with coronary occlusion, nursing is very important. The patient should be spared every exertion. Skill in shifting and adjusting the patient's position, comfort in breathing and drinking and in emptying the bowels and bladder is especially required. The bowels should be moved by low enemas after the first day and then kept open by very mild laxatives. We should not attempt to force fluids in this condition. In some instances we can give normal saline by hypodermoclysis where there is vomiting. The diet should consist for the first few days of hot week tea, fruit juices, milk, etc. If the patient is a diabetic, the urine should be carefully watched for evidence of any serious grade of acidosis. We should not attempt to lower the blood sugar by the use of insulin, a procedure which may have an unfavorable effect on this type of heart disease. When the patient is convalescent moderate dietary restrictions will usually suffice to control the diabetes.

Cardiac neuroses must be treated by getting the patient's confidence and by all means out-talk him. The surgeon uses his knife—the cardiologist must use his tongue. These people have heart pains, just as they have vague abdominal pains and get operated, and the surgeon has to cut deep to find the woman's genital organs. We must discuss the situation with them and get their full co-operation. It is equally wrong to diagnose cardiac neurosis as myocarditis or cardiac insufficiency as it is to diagnose it as no disease or wholly the patient's imagination. It takes time to go over these cases and, if we cannot take this time, we should turn them over to somebody else who will. Explaining the cause of their symptoms is worth more than all the medicine in the world, and this will do more real good than treating many cases of organic heart disease. This all will have to be gone over and over again at stated intervals. Give an outline for the neurotic to follow and caution him or her to avoid late hours, stimulants such as coffee, alcohol and to let up on tobacco. Of course, we may have to treat them symptomatically, such as giving them a drug like amytal compound or amytal to make them sleep or for headache, and bromide for palpitation, but never give them digitalis because it is contraindicated always.

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Banti's Disease—Case Report

BY R. B. CUNNINGHAM, M.D.
Booneville, Miss.

The condition known as splenic anemia had been alluded to several times prior to Banti's report in 1894. This term was a general one, and applied to any condition where there was an association of anemia with splenomegoly. This combination is now observed in several conditions which are separate and distinct clinical entities.

In 1894, Guido Banti described a special form of splenic anemia, which we now recognize as a clinical entity, and which bears his name.

ETIOLOGY

The disease occurs mostly in young adults, and incidence among males is greater. The cause has not been established definitely. Banti's hypothesis was that the splenic enlargement was brought about by an unknown infectious agent localized in the spleen, which, due to a disturbance of metabolism, produced another toxin (spleno toxin) that acted on the liver and splenic veins to produce the pathology described. Another theory is that gastro-intestinal intoxication plays an important part in the cause. A more recent theory is that a diphtheroid organism similar to the one found in the lymph glands in some cases of Hodgkins Disease may be the causative agent.

PATHOLOGY

The spleen is enlarged, the notches are apparent. It is smooth in contour, firm in consistency, and there is no tenderness. There is more or less perisplenitis. The fibrous tissue is increased in the follicles, spreading outward from the central artery which often shows hyaline degeneration. There is a fibrosis of the reticulum with a narrowing of the splenic veins, a thickening of the capsule and trabeculae. There is an endophlebitis of the splenic veins which may extend to the portal vein. The liver shows cirrhotic changes, and the bone marrow characteristic changes of a secondary anemia. There is no general glandular involvement. The blood shows the picture of a moderate anemia, with a moderate leucopenia, and a normal or slightly increased resistance of the red blood cells.

SYMPTOMATOLOGY

The disease is marked by its chronicity. Clinically there are three stages: The first, or pre-ascitic state which lasts several years, and is characterized by a gradual increasing pallor and weakness. Vague digestive disturbances and abdominal pain are often present. There is a slow, progressive painless enlargement of the spleen, a tendency to hemorrhage (hematomesis and melena), a moderate anemia of the chlorotic type, and an increase of urobilin in the urine.

The second stage, lasting only a few months, shows further enlargement of the spleen, and the liver is somewhat increased in size. The urine is scanty and urobilin is increased. Digestive disturbances and diarrhea are common.

The third stage, which lasts from one to two years marks the period of extensive ascites. The is a progressive anemia and emaciation.

DIAGNOSIS

The chief difficulty in diagnosis is the confusion with other forms of anemia with splenomegoly, and very often with gastric or duodenal ulcers that are bleeding.

From gastric and duodenal ulcers, Banti's Disease may be differentiated by the clinical history, the presence of an easily palpable spleen and X-ray examination.

Syphilitic and malarial splenic enlargement may be ruled out by appropriate laboratory and therapeutic tests.

Cirrhosis of the liver. The earlier enlargement of the liver, the predominance of hepatic symptoms, tendency to abdominal pain, fever and leucocytosis should rule out cirrhosis.

Pernicious anemia, with the more acute progress, with remissions, the smaller spleen and the characteristic blood findings should offer little difficulty in differentiation.

Leukemia ordinarily should present no difficulties, due to the blood findings. In the aleukemic state, however, differential diagnosis may be extremely difficult. As splenectomy is contra-indicated in this condition, reported blood examinations should be made in order to arrive at a correct diagnosis.

Gaucher's Disease is fortunately a very rare condition closely simulating Banti's Disease. Aside from the greater chronicity, the peculiar thickening of the cornea and brownish pigmentation of the skin, there are very few points of differentiation. The true diagnosis is usually made after the spleen has been removed and sectioned.

Prognosis. The disease is very chronic and progressive. No spontaneous recovery has been reported. In untreated cases, death usually takes place from hemorrhage or intercurrent infection.

Treatment. Splenectomy |is the only logical treatment. The operation should be done in the first stage and the earlier it is undertaken, the lower the mortality and the greater the relief which often amounts to a complete cure.

CASE REPORT

Mrs.C. B. S. Age 22 years. Married. Para 1. Came for examination April 11, 1932, complaining of enlargment of the left side of upper abdomen, loss of weight and general weakness. This trouble began about three months previously, and was growing progressively worse. There was no pain or discomfort. Had lost eighteen pounds in weight during this time. There was nothing significant in the past or family history.

Physical examination. She was well developed and well nourished and slightly anemic. Otherwise the examination was negative except the abdomen.

There was a mass in the upper left abdomen which extended downward half way between the costal border and iliac crest, and to the mid-line anteriorly. The mass was smooth in contour, the notches were apparent, it was firm in consistency, rather fixed, and there was no tenderness.

The R. B. C. was 4,280,000. Hb. 60 per cent. W.B. C. 4,400. Differential count: S. 30, L. 7, N. 62, E. I. There were no abnormal reds or whites.

One week later, April 16th, there was no appreciable change in the abdominal findings. R. B. C. 4,100,000 Hb. 45 per cent. W. B. C. 2,000. Differential count: S. 31, N. 67, E. 2. No abnormal whites. There was slight variation in the size and shape of the red cells.

A diagnosis of Banti's Disease was made and operation advised. This was refused and X-ray treatment was given, 90,000 K. V. with one 4 mm. aluminum filter, at a distance of 18 inches, for fifteen minutes over the spleen.

April 26th. No change in size of spleen. R. B. C. 3,965,000. Hb. 55 per cent. W. B. C. 2,500. Differential count: S. 31, N. 69. No abnormal whites. Some variation in size and shape of red cells. Clotting time six minutes.

May 9th. No change in size of spleen. R. B. C. 4,075,000. Hb. 50 per cent. W. B. C. 2,750. Differential count normal. Red cells showed changes in size and shape.

May 13th. The spleen was removed through a left rectus incision. There were comparatively few adhesions except on the under surface where there were many firm bands. The ligaments were broadened and the vessels enlarged and tortuous. There was considerable oozing from the surrounding tissues, but this was controlled and the incision closed without drainage. The spleen measured 5 by 12 by 8 inches.

The first two postoperative days were rather stormy, but after that her convalescence was smooth. On May 24th, the eleventh postoperative day, the R. B. C. was 4,075,000. Hb. 55 per cent. W. B. C. 17,250. Differential count: S. 13, N. 87. She was discharged two weeks after operation.

June 12th. R. B .C. 3,330,000. Hb. 60 per cent. W. B. C. 9,800. Differential count: S. 18, N. 82.

July 20th. R. B. C. 4,325,000. Hb. 60 per cent. She reports that she is gaining every day, feeling well, and is doing her own house-work.

December 12, 1932, seven months after operation, R. B. C. 4,800,000, Hb. 75 per cent. W. B. C. 9,650. Differential count. S. 39, N. 57, E. 1, B. 1. No abnormal reds or whites. Her general condition is excellent. She is leading a normal life and working regularly.

In a personal communication a few days ago she reports that she is as well as any normal person she knows.

Inguinal Hernia

My paper deals only with the operative treatment of Inguinal Hernia. I shall be glad to endeavor to answer any question on this subject not included in my paper.

Some of you older doctors have read many articles in the past quarter of a century, giving various technics in the cure, or hope of a cure, of Inguinal Hernia. Since I have had to prepare a paper on this subject, certainly, it has been extremely interesting reading to find out the methods employed, not only by many American surgeons, but also by Canadian, English, German and surgeons of other nationalities.*

*Keynes, English; Easton, N. Y.; Koontz, Baltimore; Seelig, St. Louis; Andrews, Chicago; Moorehead, New York; Laroque, Richmond; McCracken, Dallas; Tinker & Sutton, Ithaca; Rosenblat and Cooksey, Detroit; M. C. Gallie, Toronto; Coley & Burke, New York City; Pettie, Portland, Oregon; Gallie and Le Meauries, Toronto; Eccles, London; Neissen, Germany; Potts, Illinois; Huston, Dayton, Ohio; Farr, New York; Babcock, Philadelphia; Frank Lahey, Boston.

Without giving you a long review of these methods and their result, I feel it will be more interesting for you to know the concensus of opinion, if there really is any at this time, on the best method of treatment and also my own work along this line.

There is one great agreement among most surgeons today and I have noticed this fact in several of my cases of recurrent inguinal hernia. Namely: Muscle to fascia closure is not an entirely safe method of repairing the inguinal hernia. I know that most all of you men present have seen many hernias cured by the old Bassini operation, while you have also seen many recurrences by this same method or a modification of this method.

I propose to make my paper short giving my own views and methods.

FIRST: Let me state that in all inguinal hernia operations in the adult I believe in the use of the fascia, whether it be fascia lata strips, strips of fascia from the external oblique or alcohol preserved ox fascia, or the use of the fascia of the internal oblique.

This is a broad statement and will bring condemnation from some surgeons, but after having had to use fascia to repair a number of recurrent hernias, I have been convinced more than ever that fascia of some kind should always be used in the first repair of adult inguinal hernias, whether it be of the direct or indirect type.

The kind of fascia, of course, is selected before operation, if possible. On a small indirect sliding inguinal hernia, I use a half moon flap of fascia of the internal oblique to close the inguinal canal floor. On large indirect scrotal and direct hernias, I have my patients prepared for removal and use of fascia lata.

Let me state here that I have never used alcohol preserved ox fascia or dead fascia strips simply because they have not been detailed to me by any surgical house.

Experimental evidence presented by Koontz of Baltimore and confirmed by Rosenblat and Myers of Deroit, McNealy and Lichenstein of Northwestern University, Horsley of Richmond and others, show that alcohol preserved ox fascia lata is as good to use as the fascia lata of the person on whom the operation is to be performed. This preserved type of fascia lata is especially popular for closing post operative ventral and inguinal hernias of considerable size.

Several of the surgeons stated in the articles which I reviewed in preparation of this paper that fascia is of undoubted value in closing inguinal hernias after they have recurred several times following the Bassini repair. I feel that it is much better to use fascia at the first operation and in doing so, I know that we will cut our recurrences down to a very small percentage.

I will describe briefly my choice of anesthetic, method of operation and post operative care of the patient.

Spinal anesthesia is preferred because it gives better relaxation, lasts the required length of time and largely prevents post-operative vomiting and straining.

The patient has had a two day preparation over the abdomen and the thigh opposite where the hernia is located. This consists of a daily shave of these parts followed by a good scrubbing with green soap and water, alcohol and ether. A painting of these parts with tincture of merthiolate and the placing of sterile towels over these parts. Sodium amytal is given the night before operation and the morning of operation. I use 3 assistants and 2 scrub nurses in these operations, where fascia lata is to be used. Two assistants to remove fascia from thigh, while one man assists me in actual repair. One scrub nurse, each with separate instruments and tables is used. You note already that a hernia repair may be one of the biggest major operations we have today. Since the introduction of fascia less than one year ago, I saw a surgeon do a bi-lateral hernia repair in 45 minutes, using the method of Bassini. He did not isolate the sac on one side, but covered it with internal oblique muscle, which was sutured to the shelving portion of the inguinal ligament.

I never repair but one side of a hernia at a time. The only hernia case I have lost was in a man of about sixty years of age, who insisted that I repair both sides under local at the same operation. This has cured me completely of bi-lateral operations the same day.

After the spinal is given, the parts are painted with tincture of merthiolate, the skin and superficial fascia are divided for about 5 inches parallel to and one inch above the inguinal ligament. The external oblique fascia is split along the entire length of the canal, the sac and cord raised, separated and a purse string suture taken in the sac, at its entrance into the abdominal cavity. The sac is transplanted upward and medially under the transverse and internal oblique muscle fibers. The strips of fascia lata are used to sew the muscle fibers of the internal oblique to the shelving portion of the inguinal ligament and also to close the lower angle around the symphysis interrupted mattress sutures of 2 or 4 chromic catgut are used to hold internal oblique muscle fibers to the inguinal ligaments, until fascia united firmly. If the patient has considerable fat, I then suture the cut edges of the external oblique fascia together over this firm bed thus further strengthening the floor of the canal. The cord is placed in its new bed. Skin and fat closed with interrupted silk or silk worm gut special type sutures. Firm dressings are then applied.

After the operation, the patient has pillows put under his knees to relax his abdominal muscles. His position is changed every two hours to prevent hypostatic pneumonia. Morphine, grain ¼ is given P. R. N. Fluids are given freely by mouth and rectum. Cough, if any develops, is quickly stopped with codeine. The wound is dressed for the first time on the 7th to 8th day, when the skin sutures may be removed, if desired. The patient is kept in bed 21 days regardless of how well he gets along. He is instructed to do no heavy work for 4 to 6 months after leaving the hospital.

Dr. Keynes of St. Bartholemew's Hospital and London Truss Society, a few years ago told the story of an incident which happened at a meeting of the Royal Society of Medicine in London. One surgeon arose to discuss inguinal hernia and said that the method he used in repairing them had insured 100 per cent cure, whereupon Sir Langdon, in charge of St. Bartholemew's Hospital and the London Truss Society arose and read a list of the surgeons who had patients to have recurrent hernias come there for trusses. This surgeon's name headed the list.

I present 42 cases of my own during the past 2 years. The ages run from 20 to 82 years. There was one mortality. Spinal was used on 28 cases. Fascia was used on 33 cases. There were 9 direct and 26 indirect and 5 combined direct-indirect hernias. Six of these were recurrent hernias or about 14 per cent of all my cases.

SUMMARY

1. Only operative treatment of hernia has been discussed.
2. I feel that fascia of some type should be used in all inguinal hernia operations.
3. A half moon flap of internal oblique fascia is used in small sliding oblique hernia where the defect is not exceedingly large.
4. Fascia lata strips are used in all other types after the method of Gallie.
5. The anesthetic of choice, method of operation and post operative care which I practice have been described.

Relief to the Physician

Bulletin Number 7 of the Federal Emergency Relief Administration, under the Act of 1933, has to do with the medical care of the indigent on the rolls of the Relief Administrators in states and sub-divisions of the state. Mr. Hopkins, the Director of the Federal Emergency Relief Act, has recognized that medical care of the unemployed is as important as food, clothing, shelter, and fuel. This decision of Mr. Hopkins' is of extreme importance and it shows that he is a broadminded individual who recognizes that medical care is one of the fundamental needs of the poor. Under his interpretation of the Federal Emergency Relief Act, medical, dental, and nursing care should be paid for by the District and Regional Directors. Attention is called to the fact that it is necessary for the local physicians or for the state organization to arrange a schedule of fees for services rendered to the poor. In the three states in which this is now in effect the returns to the physician varies. In Kentucky, for example, the doctor receives approximately $1.00 per visit, and ten cents a mile for distant trips. In New Jersey the rate is about $2.00 a visit. From the experiences of the states that have already made satisfactory arrangements with their Federal Emergency Relief Director, apparently it is satisfactory to arrange the fee schedules on a basis of two-thirds the regular fee in any district. Hospitalization is not taken care of by the Federal Emergency Relief Act.

It has been suggested that the fee schedule should be regulated locally; there should be a community plan rather than a statewide plan, but that the parish and county societies must get the approval of the state societies, who in turn should have dealings with the State Administrators of the Federal Emergency Relief Act. The physician is obligated to keep a list of all calls. Bills are rendered at the end of the month. They should be submitted within ten days from this period if they are to be accepted. The bills are rendered subject to the penal action which provides for a fine of $10,000 for false information. This particular clause is presumed to prevent undue padding of bills. The bills that are submitted must contain exact data as to the visits made and so on. Emergency visit may be made by the physician but if subsequent care is necessary, or if the case is a chronic case the physician is expected to be called by the social worker in charge of the family.

It is suggested that the fee schedules should be safeguarded. Definite statements should be made that the fee schedule is on a reduced basis and applies only to the emergency. This is for the two fold purpose of maintaining proper fees for those who are able to pay and in order that workman's compensation fees will not be effected in the future.

It would seem that justice is being meted out to the physician, who in most places has been taking care of the indigent for nothing. It behooves parish and county organizations to act immediately to make arrangements for these benefits. It is understood that only members of organized medicine are in a position adequately to deal with this matter.—Editorial in New Orleans Medical and Surgical Journal.

It is only the man who is bigger than his job that gets the bigger jobs.

The great business of life to be, to do, to do without, and to depart.—John Viscount Morley.

Antimalarials

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Malaria has been one of the scourges of the ages. It has undermined the stamina of peoples, wrecked civilizations, disorganized armies and changed the map of the world as much as has almost any other factor in human life. In combating this disease there have been three general periods: (1) the thousands of years antedating the discovery of cinchona; (2) the three or four hundred years between this and the isolation of quinine, and (3) a period of more than a century in which quinine has been in use. We might almost designate the last fifteen years as the fourth period, for during this time specific therapy has been put on a more rational and effective basis.

While from time to time many agents have been recommended as antimalarials, only a few will be discussed here. These have been employed with varying results in the hands of different clinicians, as will be discussed in detail later. It is probable that one cause of the wide variations in results is the different types of infection with the specific plasmidia. There may be a single infection wth the tertian, quartan or estivo-autumnal (two or more varieties), or these infections may be multiple with

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the same type of organism or with different strains.

PROPHYLAXIS

As infection of the human being is exclusively through the bite of a certain genus of mosquito, prevention naturally resolves itself, in a large way, into two general divisions: (1) prevention of the infection of mosquitoes by malarial patients, and (2) prevention of the infection of non-malarial persons by infected mosquitoes. Many well-known campaigns have been waged and splendid results reported. The possibilities of good are well illustrated by the results of the New Orleans "clean-up" of 1905. While this campaign was directed primarily against yellow fever, it practically eliminated malaria as an endemic disease. I have never treated a patient with malaria where I felt that the disease had been contracted in the city proper, in the more than twenty years that I have practiced here.

SPECIFIC DRUGS—CINCHONA

When Pizarro led his band of adventurers from the west coast of South America into ancient Peru, the natives were using cinchona for the relief of malaria. This has frequently been disputed, but Lloyd rather convincingly shows that the native name for the bark "quina-quina," meaning "bark of barks," or "medicine bark," indicates that they knew its value. This is supported also by the best histories that we have of those times. Incidentally, the name "quinine" was derived from this native name of the bark. The use of the remedy was learned from the Indians by the Jesuit fathers who accompanied the early explorers and settlers and it was introduced by them into Europe in about 1632. The name "Jesuits' bark" was thus obtained. These priests carried back with them a rather large quantity to distribute among the various members of the order on the continent, and while it was given free to the poor, it was sold to the rich for its weight in gold. Soon after this the Countess of Chinchon, the wife of the Viceroy of Peru, was cured of malaria by this drug, and she introduced it into Europe about 1638. Being a prominent personage, her recommendation carried much weight, and the drug was named cinchona in her honor. For many decades the use of cinchona was bitterly contested even in the highest medical circles, many claiming that it was not only useless but dangerous. It is interesting to note that the great Harvey was among these opponents. There is no doubt but that the use of the crude bark, whether taken as an infusion or as a powder, was fraught with many unfavorable side effects, as at that time it contained only about two or three per cent of alkaloids, of which only about one-fifth was quinine. It also had a large percentage of tannic acid as well as many other ingredients. The condition can well be illustrated by our compound tincture of cinchona (U. S. P.), which is occasionally prescribed today. It would require nearly a pint of this to give a day's intensive treatment of total alkaloids (30 grains). Aside from the other ingredients, this would contain as much alcohol as about two gallons of beer. Warburg's tincture, which is largely prescribed by some physicians, contains only one and one-half per cent of quinine. It would therefore require about 4 fluidounces to give a day's intensive treatment for malaria. This formula originally contained about seventy ingredients, but at present it has only seventeen. Cinchona is cultivated today in many parts of the world and only a negligible fraction comes from South America.

Quinine, the principal alkaloid of cinchona, was isolated in 1820. It comprises from one-fifth to one-half of the total alkaloid of cinchona bark. The Pharmacopoeia contains, in addition to quinine alkaloid, the sulphate, bisulphate, ethylcarbonate, dihydrochloride, hydrochloride, hydrobromide, tennate, and quinine and urea hydrochloride.

Quinidine was isolated in 1833. The sulphate is in the U. S. P. It may be a surprise to many to learn that it has been in use as an antimalarial almost as long as quinine itself. Dawson quotes some interesting facts from the Report of the Madras Cinchona Commission of 1870. This volume details the results of thousands of cases of malaria treated with this drug. Both Dawson and Sanders consider it equal to quinine as an antimalarial and think that it has a large field of usefulness, as will be discussed later.

There are about twenty other alkaloids in cinchona bark, but only one of these, cinchonidine (sulphate), is in the Pharmacopoeia.

Totaquina, a mixture of all of the alkaloids of cinchona just as present in the bark, is being advocated by the drug division of the League of Nations as a cheap but efficient product that may be used when necessary in the place of the pure quinine salts.

TOXICOLOGY OF CINCHONA ALKALOIDS (CINCHONISM)

While serious poisoning is rare, some idiosyncratic manifestations are distressngly common. Among these are headache, tinnitus aurium, impairment or loss of hearing, nausea, vomiting, scarlatiniform erythema and other skin lesions, nervousness, fever and impairment of vision. Solis-Cohen thinks that febrile patients are less apt than others to show unfavorable symptoms and he feels that this is particularly true in pneumonia and malaria. The treatment of cinchonism consists principally in the discontinuance of the drug. The bromides in large doses will relieve many of these discomforts. Some of the cinchona alkaloids like quinine are levorotatory and some like quinidine are dextrorotatory, and Dawson has found that when a patient is sensitive to a member of one of these groups, often he will not be sensitive to one of the others. For example, a patient who cannot take quinine with comfort may be able to take quinidine without inconvenience and with approximately equal beneficial effects. This may prove an exceedingly valuable lead.

Bradley is now preparing a comprehensive paper on malaria among dope habitues, this study having been stimulated by the discovery of a large number of cases of estivo-autumnal malaria among a group of addicts who were using their syringes in common. Present indications are that these unfortunates may have a lowered resistance to the ravages of the disease.

Methylene blue has been used from time to time, and some of the new synthetic remedies are built chemically around this product.

Sodium cacodylate as a synergist for quinine has many advocates and has been used in a large way, especially by some of the American companies working in the Tropics.

Neoarsphenamine has been recommended by many. Beckman quotes Fernan-Nunez as recommending its routine use in association with specific quinine therapy.

Plasmochin, a German patent, was introduced about 1926. The manufacturers state that it is chemically n-diethylamino-isopentyl-8-amino-6-methoxyquinolin converted into a salt suitable for manufacture into tablets. It is marketed in tablets of 1-3 grain (0.02 Gm.) each. Plasmochin compound contains 1-6 grain (0.01 Gm.) of the drug and 2 grains (0.13 Gm.) of quinine sulphate in each tablet. The following adult dosage is given: plasmochin compound —two tablets three times a day; plasmochin plain—one tablet three times a day. It is recommended either that this dosage be continued for two weeks and then intermittent treatment be used, consisting of courses of from five to seven days with an interval of four days between courses.

Some references from recent literature may be of interest. Barber and Komp report that they found that plasmochin compound taken by a malarial patient prevented the development of oocysts in mosquitoes that had fed on these individuals. They feel, therefore, that the drug has a field of usefulness in prophylaxis. James found that some cases of malignant malaria were not prevented from continuing to show organisms by the plasmochin-compound treatment. McPhail, in a comprehensive study based on a large experience, came to the conclusion that the plasmochin treatment prevents the infection of mosquitoes by the human host; that used in sufficient dosage it destroys the gametocytes of all forms of malaria, and that in estivo-autumnal infection plasmochin compound is more effective than plasmochin alone. James, Nicol and Shute, in an interesting experiment, were convinced that plasmochin had a field of usefulness in preventing mosquito-borne malarial infection from developing in healthy individuals. Craig states that plasmochin should not be relied upon for the cure of malaria but only for its destructive action upon the gametocytes, and that in tertian infection it has been found that the combination with quinine results in a smaller relapse rate than if quinine is used alone. He feels that plasmochin is efficient in tertian and quartan, but quite useless in estivo-autumnal, infections. He suggests its usefulness in combination with quinine in the treatment of malaria carriers. He also advocates its use for five or six days in all malarial infections after the symptoms have been controlled by quinine, in order to kill the gametocytes that may have developed. I believe that this drug is certainly worthy of further investigation. Its relative position in specific therapy will be discussed later.

TOXICOLOGY OF PLASMOCHIN

Among the symptoms that have been reported are epigastric pain, abdominal colic, vomiting, cyanosis, dyspnea and diarrhea. Manifold found that some unfavorable symptoms developed in 24.4 per cent of his white patients, and he feels that, while severe symptoms are relatively infrequent, the individual taking the drug should be under direct medical supervision.

Atabrine, a patent of unknown formula put out by the manufacturers of plasmochin, is said to be an alkyl amino-acridine derivative. It is marketed in tablets of 0.1 Gm. (1½ grains), and the manufacturers recommend as an adult dosage one tablet three times daily for five days or twice daily for eight days. Atabrine is a new product and is essentially in the experimental stage. Reports so far have indicated therapeutic efficiency. From his experience Green found that in the destruction of malarial parasites in the blood, it compares favorably with quinine in the treatment of benign tertian and quartan infections but that the trophozoites of P. falciparum persisted longer among the atabrine cases than among those taking quinine. He further found that atabrine appeared to have no directly destructive effect on the gametocytes in the blood of subtertian patients. Among the toxic symptoms, he reports headache in the supra-orbital region, epigastric pain and a yellowish discoloration of the skin and sclera. The last mentioned symptom was supposed to be due to the dyeing effect of the drug and not to jaundice. Headache and abdominal pain appeared in about 12 per cent of his cases. Muhlens found this drug effective when used alone or when combined with plasmochin, and he suggests a field of usefulness also in those who have an idiosyncrasy for quinine.

SPECIFIC TREATMENT WITH QUININE

While I freely acknowledge that plasmochin, atabrine, neoarsphenamine and even some other drugs may have therapeutic efficacy as antimalarials, my experience, as well as that of a host of others, with quinine in treating this disease has been such that I have not found any other specific drug necessary. Osler once remarked, "The physician who at this day cannot treat malarial fever successfully with quinine should abandon the practice of medicine." Bass states, "Administration of ten grains of quinine daily for a week prevents relapse in a few instances, but quinine therapy must continue for four weeks to cure 60 or 70 per cent of cases, for six weeks to cure 80 per cent, for eight weeks to cure 90 to 95 per cent and probably for twelve or fifteen weeks to assure cure in 100 per cent of patients." Craig recently stated: "Quinine is the specific in malaria, and if the drug is administered in sufficient dosage and is absorbed by the patient, it will cure every malarial infection if the treatment is instituted before the patient is practically moribund." Sinton in a recent article reported that he had found no quinine-fast cases in the study of 4,000 malarial patients in India and he doubts if any actually exist.

STANDARD TREATMENT

Up until about fifteen years ago much confusion existed as to the best therapeutic use of quinine in malaria, and one of the achievements of modern medicine has been to bring order out of this chaos. In 1916 the National Committee on Malaria was organized at Washington with 29 charter members. On this list we find such names as Bass, Blue, Craig, Deaderick, Dowling, Gorgas, Harris, Henson, Le Prince, Leathers, Still and Thayer. One of the results of this organization was the appointment of a sub-committee on Medical Research consisting of Bass, Craig, Deaderick, Dock and Krauss, who in November, 1919, gave to the world an orderly systematic plan of therapy of proved efficiency which has been termed the "Standard Treatment." The names alone of these men were sufficient to command inatrnational respect for any product of their endeavor. The standard treatment was based largely upon the work of the International Health Board of the Rockefeller Foundation and the Mississippi Board of Health, who together conducted a malarial survey in Sunflower and Bolivar Counties of Mississippi under the personal supervision of Bass. This work, which was carried out in the years 1916, 1917 and 1918, was the largest directly controlled therapeutic experiment in the history of the fight against this disease. Over 30,000 cases were diagnosed and treated under intensive expert supervision. At first the work was largely experimental, large groups of patients being given quinine in the various ways that had been recommended by the best clinicians. It was found that one plan met the requirements so much better than did the others that it was later adopted entirely and the results checked in many thousands of cases. This is the Standard Treatment and is substantially as follows:

For the acute attack, 10 grains of quinine sulphate should be given by mouth three times a day for a period of at least three or four days. This should be followed by the administration of 10 grains every night before retiring, for a period of eight weeks. For infected individuals without acute symptoms, only the latter part of the treatment (administration of 10 grains nightly for eight weeks) is necessary.

The doses for children are: age less than one year, ½ grain; one year, 1 grain; two years, 2 grains; three and four years, 3 grains; five, six and seven years, 4 grains; eight, nine and ten years, 6 grains; eleven, twelve, thirteen and fourteen years, 8 grains; fifteen years and over, 10 grains.

Until some plan of therapy can be proved to be superior to this almost perfect therapeutic scheme, I see no reason for forsaking it. In 1923 Bass wrote that in six years he had seen no cases that had not been promptly relieved clinically by this treatment.

The best doctors in the world are Doctor Diet, Doctor Quiet and Doctor Merryman.—Swift.

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Community Health Education

BY J. A. MILNE, M.D.
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Health education is often referred to as anything that educates anyone in the matters of healh. This term is used by different persons with widely different meanings. Public health officials usually use the term to mean the imparting of health information to the general or adult population. School officials refer to it as meaning, in some cases, the physical education program, the health instruction program, or they may refer to all the school activities, referable to health promotion and protection.

Health education has been defined as that phase of education which is concerned with acquainting the individual with the fundamentals of health promotion and with the principles and practices of prevention and control of communicable and other diseases; inculcating in him an impelling appreciation for both personal and community hygiene, and helping him to attain certain effective skills whereby positive physical, emotional, and mental health may be attained and by developing in him lasting health habits.

In the modern public health movement the human being has become the center of interest. Formerly, the chief interest—in fact, one may say the whole interest—in public health was centered on the environment, i. e., sanitation—the prevention and control of communicable diseases through sewage treatment, garbage disposal, water purification, pasteurization of milk, inspection and control of foods, and eradication of insects. While public health will necessarily always be interested in these machineries concerned with the blocking of the several environmental routes over which communicable diseases travel and are disseminated, and in other matters pertaining to the environment in its relation to disease, the center of its interest has shifted to the human being. In dealing with this new field, the human being. In dealing with this new field, the human being, health promotion, i. e., the building up of sound, vigorous, harmoniously developed body machines free from incapacitating defects and illnesses, is becoming the major interest in the new public health. Moreover, we are realizing more and more that the education of the masses in the fundamentals of health promotion and in the prevention and control of communicable and other diseases is our most effectual procedure. In matters pertaining to health promotion and to the personal factors involved in the prevention and control of communicable and other diseases, we cannot deal effectively through legislation and regulation. Education is our only recourse; hence, the preponderant importance of public health education in the modern public health movement.

This field is so broad and the various phases so important that for the purpose of this paper, I am going to limit it briefly to the who, what, where, and how of carrying on this activity in a county health program.

Who is responsible for the program? To get the most out of the efforts, responsibility must be fixed on the health officer himself, or some one selected by him, within or without the department who has some natural talent or aptitude a least for some phase of the job. Whoever assumes responsibility locally should be expected to marshal all of the community facilities as the occasion demands as well as calling upon the State Board of Health for such assistance as they may render.

What material should be presented? Obviously, the material to be presented to a particular group must be selected by the health officer, or his staff, having in mind the circumstances at the moment.

A well-trained health officer, as well as his entire staff, should be alert to and able to take advantage of any situation which can be effectively utilized in stimulating local public health interest. A little thought upon the part of the staff will, in practically every county, turn up a number of cases in the course of the year's work which possess both dramatic and public health appeal and which if presented to the local public through personal contact, newspaper stories, or public talks, should point out to the audience the tangible effects and advantages of public health work. The fundamental purposes of publicity can be stated and set up as follows:

1. Presentation of general health information.
2. Advice on specific problems.
3. Material to bring about a favorable and intelligent action regarding the health budget.

The health officer and his staff should be acquainted with the sources of authentic information on public health subjects in historical and current literature, as well as local, state, and federal reports. The first requisite of sound health information is that it be based upon facts. So-called health facts are frequently neither true nor important. The time has come for us to look a little closer at factual bases of our health information as to their authenticity and that supporting evidence be available for facts presented within the health department.

Where should we present our facts? We may briefly group the individuals to be informed as follows:

I. A selected list of prominent, responsible citizens (this may include individuals from groups II, III, IV, and VI)
II. Local public officials
    1. County judge
    2. Board of supervisors
    3. City and town officials
    4. School committees
    5. Superintendents of schools
III. Medical and allied groups
    1. Doctors
    2. Dentists
    3. Nurses
    4. Hospital staffs
    5. Veterinarians
IV. School teachers and clergy
V. Children
VI. General public

How should we present our facts? The fundamental thing in all public health education is to know the facts relative to health promotion and to the prevention and control of communicable and other diseases. With these facts at our command, the next interest is to know how these facts may be most effectively presented to the public so that the people will use them.

The publicity program should be planned so that it will not be spread too thin in the effort to reach the whole public. It is important to reach the same person several times in different ways with the same facts in order to make a lasting impression. The publicity program is not likely to do this unless there is a definite plan which takes account of the special publics to be reached.

I. Our objectives in contacting prominent and responsible citizens are:

(a) To build up informed public opinion regarding activities of the health department;

(b) To enlist their aid in specific matters of program and budget; and

(c) To use them as foci of sound information regarding public health activities within a community.

These objectives may be attained by:

(1) Personal contact. Every member of the health department should be conscious of the importance of making service and social contacts with this group and taking every opportunity for acquainting individuals with the objectives, activities, and results of the public health program;

(2) Use of individuals from this group on a committee or as volunteer personnel;

(3) By an occasional specially prepared personal letter from the health officer or a prominent citizen interested in the health program, and dealing with a specific activity or problem;

(4) Verbal reports, addresses, and talks to the individuals, in this group should be made as the opportunity arises or specific opportunities can be created;

(5) By selected distribution of pamphlets or specific books on health subjects; and

(6) Annual reports are often of great value in informing selected groups. Where a health department is able to prepare such a report, in printed or mimeographed form, it should be specific, concise, and set forth the important services, accomplishments, and needs of the health department. It should also interpret its activities in terms of personnel and budget.

II. Our objective in contacting local public officials is for their support, either in terms of budgetary commitment or other official action necessary to the establishment and continuance of the health program. This may be made possible through the methods used to inform our prominent responsible citizens mentioned above.

III. The object of contacting our medical and allied groups is to improve the medical practice; and, secondarily, to develop a wholesome respect on the part of the profession for the services rendered by the health department.

This may be attained by:

(1) Personal contact by the health officer, including professional consultation which ordinarily would be in the field of communicable diseases;

(2) Service from the department—laboratory, nursing, and informational;

(3) Extension postgraduate teaching, under whatever auspices, as local, state medical society, Commonwealth Fund, U. S. Public Health Service, or State Board of Health;

(4) Group meetings—medical, dental, and nursing; and

(5) Activities to stimulate the public to greater

use of local physicians for preventive medical service as interest in prenatal supervision, correction of physical defects, and the necessity of disease protection.

IV. Our objectives in informing the school teachers and clergy are that they can in their professional capacity, discuss and interpret the work of the health department.

This may be accomplished through:

(1) Personal contact;

(2) Services rendered through the health department;

(3) Personal letters, news letters, or bulletins;

(4) Talks; and

(5) Special classes by the health officer, or staff, on timely subjects.

V. The object of carrying on a health education program among the children is to improve personal hygiene by the establishment of sound health habits and to develop a health consciousness of the importance of personal and community health. This may be attained through formal and informal graded instruction in schools, and otherwise, to children concerning personal hygiene and public health. This instruction should be correlated in the schools with the other studies and supplemented by distribution of literature, posters, motion pictures, and the like. It is sometimes felt that the health button and other contests help to stimulate an interest in the correction of faulty habits and the correction of physical defects. All contests appeal to the natural love of winning; too much emphasis, however, should not be placed upon the award. An interest is often manifest in this group through the services rendered by the health department staff in infant and preschool conferences, and home visits made by the nurses in their behalf.

VI. In contacting the general public, we try to increase the individual interest in personal and community hygiene, and to develop an appreciation of the importance of organized facilities for health protection and health promotion and to develop public sentiment for the support of public expenditures for such a purpose.

This may be acccomplished through:

(1) Personal contact, that is, through service offered by the health department staff in the home, office, or conference. The information from the workers goes to the person seeking advice. It is authoritative, personal, applicable, and direct. It is the most expensive, but by far the most effective method, since it trains people in the correct manner of living at a time when they are most amenable to training;

(2) By the use of especially timed information in the form of bulletins, pamphlets, and other printed matter on health topics. Examples of this type of instruction are seen in the sending of letters from the health department to expectant mothers, the sending of infant welfare booklets following birth registrations, the distribution of information concerning the control of communicable diseases at the time the houses are placarded. Here, the personal contact is lacking, but there is still the advantage of supplying information to individuals when they are desirous of getting it and can immediately put into practice. Form letters are valuable as an adjunct to these in that the appeal is more personal;

(3) By means of the newspaper and radio. It is believed that although there is a great deal of newspaper publicity that much is pointless and of no educational value. If thought is given in making use of items regarding the departement in an educational way they can serve a very important place in keeping the constructive, worth while activities of the department before the public. Timely, well-written informative articles should be prepared on community health and special activities of the department. These articles may often be prepared by reliable news editors, after receipt of authentic information from the health officer. Both the newspaper and the radio reach wide audiences. Both as a rule, welcome material from the health department in the form of news, interviews, short talks, and answers to questions. Material for both newspaper and local radio stations should be localized as much as possible, since this increases the interest and sometimes the value;

(4) Verbal reports, addresses, and talks may be made to various organized clubs, as service clubs, woman's clubs, parent-teacher associations, and the like. Significant health information should be presented to these groups in a convincing manner;

(5) Those interested in a special phase of health service as prenatal, infant and preschool, or hygiene activities may be reached through the organization of special teaching classes;

(6) Exhibits or displays of pertinent facts regarding the health department service in office or store windows, or at fairs, may have certain educational value, determined by their size and placing. Pageants and parades demonstrating public health procedures and progress may enlist the interest and enthusiasm of certain individuals depending upon their originality and attractiveness. All of these are excellent for arousing enthusiasm but they may not make a deep impression unless followed by other correlated activities;

(7) Well-designed lantern slides or films continue to be an effective medium when skillfully used. These may be given as part of a regular theater performance, or in connection with a lecture;

(8) Community surveys, if to be of value, should be made by a tactful, well informed and fact-finding group. Through their personal contacts, they will be able to present also the objectives of the health department and stress those features that are timely and of individual interest.

In conclusion, the objectives of health education should be definite and reasonable. They should be definite in that the health officer should have clearly in mind what he wishes people to do as a result of health advice.

The objectives should be reasonable in that they should have importance locally and be attainable with the facilities at hand as conferences for immunization. prenatal, preschool, and other groups. Full account should be taken of the limitations of mass education. For example, advice given over the radio, through newspapers, printed matter, and the like, should be on subjects which can be so simple and convincingly presented that one has a chance of obtaining a response. Health information should reach the right persons under the most favorable conditions. The final test of health education is not how much information is distributed but how behavior is influenced.

Chronic Gonorrhea*

BY B. H. BOOTH, M.D.
Drew, Miss.

Of course the cause of Chronic as of Acute Gonorrhea is the same. The Gonococci, and no time will be taken up as to the cause or manner of infection, for even if a person were to catch Gonorrhea innocently every Doctor would be a Doubting Thomas, regardless of the patient as to veracity.

Gonorrhea may be divided into two classes, acute and chronic, usually a case under three months duration is termed acute and if over three months duration, chronic, but there is no fast line of demarcation between the two.

Both acute and chronic are classified according to anatomical location, usually denominated Anterior if confined to the anterior urethra and Posterior if the posterior urethra or prostrate is involved. In this paper in discussing Anterior and Posterior it will be understood that we are referring to the chronic cases only.

The principal symptoms of the Anterior type are as follows: 1st.

1st. Urethral discharge: The symptom is pathognomonic and varies greatly as to quantity, sometimes being very scant and at others very profuse. The discharge varies much as to character, sometimes being purulent at others muco purulent or muccoid. Sometimes the discharge manifests itself only by a moistening of the meatus on arising, the so called "Morning Drop."

2nd. An acute flaring up of an old infection, simulating an acute attack, these usually follow sexual intercourse or drinking of alcoholic liquors but may come on without any apparent cause. They usually come on very rapidly and subside with the same rapidity.

3rd. Pain: This is seldom complained of in these cases except in the acute exacerbations just spoken of.

4th. Stricture: What is here said relative to stricture will also apply equally to stricture in the posterior type. Most, if not all, cases of stricture are caused by the use of astringent injections in the hands of the patient. The principal symptoms are difficulty in urination with attending pain and usually burning during or following urination.

The Symptoms of the Posterior Type may be classified as follows:

1st Local: If the infection is posterior only there will be no urethral discharge seen but as more than three-fourths of the Posterior cases are complicated with The Anterior type also, there is usually a discharge. There is usually frequent and painful micturation of small quantities of urine mingled with pus and mucus, sometimes there may be temporary stoppage of the act of micturation and there is usually a slowness in starting, accompanied by pain and burning.

2nd Referred or reflex pains: In most cases there is some complained of in the back, usually in the lumbar region and frequently severe, this pain is seldom felt over the region of the kidneys and most Negroes describe it as "Misery in the back." At times this pain is dull and constant in character and keeps the patient constantly on the rack. There may be pain in the perineum, over the pubis, along the course of the urethra, in the testicles and the glands of the groins frequently resulting in the breaking down of the glands.

3rd. Sexual Symptoms: Most frequently at first the Libido is exaggerated and there is a constant desire for sexual intercourse which cannot be satisfied by indulgence, less frequently there is a loss of libido and if intercourse is indulged in there follows a period of nervous depression, if the case continues there is a growing impotence which leads to complete loss of virility. In long standing cases there is usually prostatorrheas and spermatorrhea with usually a vesiculitis with accompanying rectal pains. Frequently there is an inflammation of one or both testicles and also Gonorrheal Rheumatism is a frequent sequela.

TREATMENT

I believe that most cases when they reach the physician have suffered from too much treament, hence I am prone to advise as little treament as possible. The treament may be divided into three classes, 1st. Hygienic, 2nd. Diatetic and 3rd. Medicinal.

Under the first heading all sexual intercourse and indulgence in alcoholics should be interdicted. If there are acute exacerbations, as near complete rest as possible should be enforced until they have subsided. Heavy lifting should also be prohibited as well as laborious or fatiguing work. In fact rest and recreation will without medication frequently work wonders.

Under the head of diatetic treament, all rich and highly seasoned foods should be prohibited and a bland easily assimilated diet prescribed with an abundance of liquids, preferably WATER.

The medicinal treatment may be divided into local and systemic:

Under the head of local treatment would come injections and irrigations. If there is no posterior involvement I do not believe that either injections or irrigations should be employed as their use will almost invariably result in posterior involvement. However if there is posterior involvement either one or both may never be employed except by the attending physician. himself, in fact, I would claim that irrigations should never be employed except by the attending physician.

There are quite a large number of drugs that have been employed in injections and irrigations but the colloidal silver salts seem to be preferred by most physicians. They are bland and usually non irritating and following their use in a proper dilution there is usually no stricture. Of course the only treament for stricture is dilitation or the knife, but if possible this treatment should be deferred until the active infection subsides.

Medicinal Treatment: Almost every drug in the Pharmacopoea has been used at some time or other in the treatment of Gonorrhea and the number still used by the Profession is still very large. From this fact we naturally draw the conclusion that there is no specific treatment for the disease. Vaccine treatment has been tried and in some cases doubtless favorably influences the treatment but as a whole its use has been disappointing.

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*Read before the Delta Medical Society, Greenville, Miss., April 12, 1933.

The remedies most used at the present time are; Sandalwood Oil, Copaiva, Buchu, Methelyne Blue and the Urinary Antiseptics, the most used of which is Hexamethelynetetramin. Methelyne Blue a few years ago was widely used but is now being gradually discarded. Copaiva is an old and tried remedy which has stood the test of time and is now again being widely employed. Probably the best agent we have is Hexamethelyne which is usually administered in seven and one-half grain doses from three to six times a day in a glass of water. Of course the treatment will vary in the hands of the individual Physician but I believe that I am saying what most of the profession endorses that the treatment should be symptomatic and as little as possible of medicine administered.

Finally, I would remind you that the patient may know when he "Caught the Clapp" but only Omnipitence knows when he is cured.

I thank you.

Agranulocytic Angina

A Review of One Hundred and Seventeen American Cases.

BY THOMAS WOLFORD, M.D.
Columbus, Miss.

Due to the increasing frequency of its appearance, or the more universal recognition of the condition, the author has been impresed with the importance of so-called Agranulocytic Angina, because of its rapid termination, its yet undetermined etiology and its high mortality.

In the review of these 117 cases the name Agranulocytosis, Malignant Neutrophilia, Polymorphonuclear Leukopenia, Idiopathic Neutropenia and numerous others have been applied to an allied syndrome first described in the German literature by Werner Schultz in 1922. The name Agranulocytic Angina has been transferred from its original meaning to multitude of conditions characterized by leukopenia and a diminution of the graulocytecs to include arsenicals leukopenic states due to radiation and bacterial infections.

Schultz, who believed the condition to be a definite clincal entity described it as "A disease which generally occurs in women of middle age, characterized by an acute onset of fever, a necrotic throat infection, regional lymph node enlargement, a slignt jaundice with a very rapid fatal termination, accompanied by a defect in the granulocytic system." Because of the absence of the granulocytic elements in the blood he proposed the name of Agranulocytosis.

Friederman, later being impressed with the severity of the throat infection added the term Angina. The first American case reported was by Dr. Beatrice R. Lovett (1) in 1924. Lincoln and Bell (2) give Turk the credit for first describing the condition 15 years prior to Schultz.

The causative factors of Agranulocytic angina still remains a hypothetical question. Some observers believe it to be a chronic Vincents Angina. Others believe it a complication of a long standing illness, such as chronic gall bladder or hypertension. Still others believe it to be an over-whelming sepsis. Cases have been reported developing following Arsphenamine, (3) benzol poisoning and radiation. It may occur in both males and females, but about 90 per cent of the reported cases have been in females. It is of interest to note a case reported by Rutledge, Hanson, Pruess and Thayer (4) of Cyclic Agranulocytic Angina beginning at the age of two and one-half months and recurring at intervals of 3 weeks during the entire life of a man of 20. His white count did not go extremely low but always dropped and was characterized by an angina, fever and malaise.

It may be assumed, that in cases of primary Agranulocytic Angina there is a destruction, by a toxin of unknown origin of the myeloid tissue. Few leukocytes are produced and those circulating in the blood stream soon pass their normal strand of life and die. The average life of the granulocyte in the blood stream is four days. Normally during this short span of existence they show intense activity, furnishing a protective phagocytic function of removing bacteria, and the production of immune bodies, such as hemolysins, precipitins, bacteriolysins etc., also producing important proteolytic ferments. In view, therefore, of the very important part these granulocytes play, especially in immunology, it is easy to understand, that if their production be diminished or inhibited, resulting in a decreased number in the circulating blood, a definite clinical manifestation results.

Rosenthal and Spitzner have shown that in aleukemic animals immune bodies develop normally, whereas if the reticuloendothilial system is paralyzed with collodial iron immunization diminishes; if the spleen is removed, immunity ceases. Hystopathic studies of the spleen in cases of Agranulocytic Angina show a marked involvement of the spleenic pulp. If the spleen alone were involved the remaining parts of the reticuloendothelial system (liver, bone marrow, lymph nodes and lymph tissue) would produce immune bodies, but all are paralyzed in Agranulocytic Angina and no immune bodies are formed. This in turn fails to stimulate the formation of granulocytes, the resistance of the person is diminished and allows any organism to invade the body. The complete absence of granulocytes in the blood for a period of a few days is absolutely incompitable with life. This to me offers a logical explanation as to the variability and variety of organisms that may-be found associated with Agranulocytic Angina. Due to the short span of life of the granulocytes, and inhibition of their formation would not make itself manifest in the blood stream for period of 3 to 4 days. Therefore, it seems logical to assume that the condition is one of bone marrow disfunction—an afunction of the granulocytic division; being present in the bone marrow before it appears in the blood, and in the blood stream before its clinical manifestations are evidenced.

If the blood count be taken early in the course of the disease it may be normal. In the larger number of cases the red cells, hemoglobin and platelets, as well as the bleeding time are normal. But the white blood count is the important and interesting diagnostic factor. It is below normal in all cases and gradually diminishes as the disease progresses. So far as I have been able to determine there are no reported cases of recovery following an absolute disappearance of the white cells from the blood stream. With diminution of the white cells there is a relative increase in the lymphocytes. But as the disease progresses, even these cells disappear, there being no evidence of any attempt at regeneration. The large myelocytes only begin to make their appearance as the condition becomes less severe and have only been found in the small number of cases that have recovered, the white count gradually returning to normal.

The patient may be perfectly well or the extraction of a tooth or some surgical proceedure may precipitate a chill, a high fever reaching 102 to 104 degrees, severe sore throat, fetid breath and within 24 to 72 hours the patient has ulcerative stomatitis, regional lymphatic enlargement, marked toxicity and extreme prostration. In about 50 per cent of the cases there is jaundice, with some enlargement of the liver and spleen. As the ulceration progresses to necrosis, there may be an associated ulceration and necrosis of the rectum and the vagina. The course of the disease is usually acute and very rapid. The white blood count shows definite changes from hour to hour. As the count decreases the ulceration and necrosis progresses and prostration becomes more pronounced. A very few cases recover or have remissions. Bronchial pneumonia is the most frequent fatal termination.

The mucous membranes of the tongue, tonsils, throat larynx and the entire gastro-intestinal system have large ulcerative areas. These have a characteristic difference in that the microscopic sections of these lesions do not show the usual inflammatory infiltration at the outer border of the area. The liver, spleen and lymph nodes may be slightly enlarged or unchanged. The bone marrow is liquid, containing few cells and no granulocytes.

Agranulocytic Angina may be differentiated from:

1. Pernicious Anemia by the extreme prostration, angina, absence of blood picture; low red count, high color index and normal white count.
2. Poisons such as arsenic, benzol—by careful history.
3. Severe Secondary Anemias: History, absence of blood picture with uniform decrease in red blood cells.
4. Aleukemic Leukemia.—Blood picture, symptoms and absence of generalized increased enlargement of lymph glands.
5. Sepsis.—History, physical findings and blood picture.

The treatment of Agranulocytic Angina has shown marked progress in the past three years, although the small number of cases in each series leave the advocated remedy somewhat open to doubt.

It is the general concensus of opinion that repeated blood transfusions are indicated and should be given daily if the condition warrants. The use of deep X-ray therapy was suggested by Friedman, to be given in 1-20 unit skin dosage, filtered through 6-10 m.m. copper, first over the long bones of the extremity for a duration of two minutes daily. There is a reduction of the leukocytes with the appearance of a few granular cells of myelocytic origin.

In November 1932 Jackson and co-workers reported their results using a Pentose Nucleotide. They used this in twenty cases with strikingly good resuls, as all cases recovered except five. The earlier in the disease that the nucleotide is given the more promising the results, as some cases are so fulminating until nothing is of avail. They suggest that the nucleotide (5) should be given 10 c.c. intramuscularly twice a day until the white blood count has definitely risen, then 10 c.c. intramuscularly daily until the white blood count has been normal for three days. A possible relapse must be watched. In fulminating cases one vile is given intravenously slowly in 100 c.c. of warm saline each morning for four days. 10 c.c. intramuscularly is given each evening. After four days it should be given twice daily intramuscularly until the white blood count has returned to normal. Reactions must be watched for when the nucleotide is given intravenously, as nausea, dyspnea, precordial distress and rapid pulse may appear soon after the solution is started. It must be given very slowly and if a reaction appears morphine sulphate and atropine should be given in appropriate dosage immediately. There may be a continuation of the fall in the white blood count in the early course of the treatment but this is no indication to discontinue the nucleotide. This can be attributed to the course of the disease prior to the beginning of the nucleotide treatment. The dosage may be increased if the count continues to fall.

A. E. Greer (Houston, Texas) advocated the use of fetal spleen in dosages of 120 to 180 grams a day in tomato juice. In his series there was an apparent response following its administration and a decrease in the white blood count with its withdrawal. M. M. Minter (San Antonio) also reports excellent results with fetal spleen when all other methods failed. Nucleotide was not mentioned in their treatments.

"Even with such a program of treatment, as X-ray, transfusions, nucleotide and fetal spleen, one approaches the treatment of these patients with hope, rather than assurance."

1. J. A. M. A.
2. J. M. SOC. New Jersey.
3. J. S. Lincoln and H. C. Bell. J. A. SOC. N. J.
4. John Hopkins Hospital. 46; 369-89 June 1930.
5. K96—Smith, Kline and French Lab.—Philadelphia.

Thatman's the best compolite who loves his native country best.—Tennyson.

The best schooling in the world is dealing with people.

I do not know the method of drawing up an indictment against a whole people.—Edmund Burke.

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Public Health News

Miss Gladys Eyrich, supervisor of mouth hygiene, State Board of Health, attended the American Dental Association meeting in Chicago where she gave a paper and a radio talk on the subject of teaching mouth hygiene to children.

So far as can be ascertained, there is no complete file of the Transactions of the State Medical Association of Mississippi.

The most nearly complete file seems to be the one in the library of the State Board of Health and contains transactions as follows: 1856,1869,1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1886, 1887, 1891, 1893, 1905, 1096, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, and from 1919 to the present time.

Certainly there should be a complete file of these reports. The State Board of Health would be glad to receive as a gift any report not listed above. The contribution will be appreciated and will be made a part of a permanent file of the reports which will be preserved for reference by future generations.

The Rockefeller Foundation has notified the State Board of Health that fellowships for a year's study at either Harvard or Johns Hopkins have been granted to the following Mississippi full-time county health officers.

Dr. Norris C. Knight, Sunflower County; Dr. C. J. Vaughn, Holmes County; Dr. A. R. Perry, recently of Washington County.

These physicians will begin their study in September. While they are away, Dr. J. T. Googe will direct the work in Holmes County and Dr. H .B. Cottrell will serve in Sunflower County.

The registered nurses of Mississippi will hold their annual meeting in Meridian on November 2 and 3. This will be followed by an Institute for public health nurses conducted by Mrs. Violet Hodgson of the National Organization for Public Health Nurses. During the week following the State Nurses Association meeting, the southern Division of the American Association will meet in Augusta, Georgia. Miss Mary D. Osborne, Supervisor of Public Health Nurses in Mississippi, will conduct a round table discussion on programs for state and district meetings.

Malaria is a serious problem and in the final analysis its control will be effected through the practicing physicians. For this reason a large part of the Board of Health's malaria control program has been to educate the general public to the necessity for a correct diagnosis and for proper and adequate treatment under the care of a physician. In its Biennial Report, the following statement is made: "Malaria is a disease that, to be effectively treated should be under the care of a physician, therefore this is stressed and self-treatment is discouraged."

The program for malaria control also includes a review of the literature for information on the most advanced methods of treatment for this disease. This information is abstracted and furnished to physicians. (No information on therapy is given to the laity.) In 1932, an outline of the Sinton treatment of malaria was prepared and mailed to every physician in the State. The many requests received from physicians for additional copies of this outline necessitated a second reprint and attested to the appreciation of and need for this service. Recent information on the use of ATABRINE and of PLASMOCHIN has been prepared by the Division of Malaria Control and will be furnished to any Mississippi physicians upon written request to this division of the State Board of Health, Jackson, Mississippi|

The Clarksdale City School Board, through its secretary, Dr. T. M. Dye, has made request that all school children in Clarksdale be tuberculin tested. Dr. Mildred Fatherree, Sanatorium, with the co-operation of local physicians and the director of the Coahoma county Health Department, will make these tests and will follow them up with physical examinations of chests and X-rays in cases which indicate the need for further examination and X-ray.

Each year several children in the Clarksdale schools develop active tuberculosis. The Clarksdale City School Board is to be congratulated for so closely looking after the health of the students and the Board is fortunate in having as its secretary Dr. T. M. Dye, Secretary of the State Medical Association. It is unfortunate that every school board does not have a progressive physician as a member.

Dr. R. N. Whitfield, T. W. Kemmerer, and J. A. Milne of the State Board of Health, attended the meeting in Indianapolis of the American Public Health Association, October 9 to 12.

The State Board of Examiners of Nurses held exinations on October 2 and 3, at Jackson. Better showings were made by those examined than any previous group to come before the Examining Board.

The State Board of Health takes pride in pointing to the fact that at the September meetings of county boards of supervisors when budgets were made that not a single full-time county health department was discontinued. Less trouble was encountered than ever before in getting appropriations for local health work; in several counties the appropriations were increased.

The five Mississippi public health nurses who were recently awarded scholarships have just begun four months graduate study. Miss Mary E. Brooks of Sunflower county and Mrs. Martha L. Pigford of Lauderdale county will attend Columbia University. Mrs. Nettie O. Turner, Leflore county; Miss Evelyn Morgan, Pike county; and Miss Roberta Mahoney of Washington county will study at Vanderbilt.

The Commonwealth Fund of New York through its program of co-operation with the State Board of Health, makes five scholarships available to public health nurses each year. Tuition, travel, and a monthly stipend are paid the nurses.

On October 6, Dr. Underwood attended a conference in Washington of public health workers, pediatricians, and others for the purpose of outlining a national child health recovery program. This conference was called by Miss Frances Perkins of the Federal Labor Department, which department paid all expenses of those invited to the conference. At this meeting, the prevalance of malnutrition among the young of the Nation was discussed and plans made for doing something for these children.

During the first six months of 1933 according to records that are practically complete, there were 182 murders and killings in the State of Mississippi. Although this number represents almost 25 per cent reduction under the first six months of last year, the statistical records received from the Dominion of Canada, with five times the population of Mississippi, show a total of only 157 homicides during the entire year of 1932. The homicide rate in Canada was one per 100,000 population; in Mississippi, this year, the rate is 17.5 per 100,000.

There have been only two legal hangings in Mississippi this year in contrast to five during the first six month of last year.

During the first six months of this year there was a reduction of 99 per cent in pardons for murder and manslaughter under the number granted during the first six months of 1932.

By the end of June thirty-five white and one hundred forty-seven colored persons had been slain in Mississippi. These included five white women and thirty-six negro women, thirty white males and one hundred eleven negro males. Four white women were killed by white men and one by an unknown party. Twenty-three colored women were killed by colored men; nine by colored women and four by unknown persons. Sixteen negro men were killed in the act of resisting arrest and escaping prison.

In twenty-one counties no homicides were recorded during the first half of the year. In most of the counties that showed heavy homicide totals for last year the indications are that their totals for 1933 will be greatly reduced. In five of these counties, if the same rate obtains during the last of the year, their total reduction will be nearly forty per cent. Only one county (Leflore) had one or more killings each month during the six month period. Its total was nine homicides. The high mark was reached in Sunflower county with seventeen homicides during the first six months. Twelve of these killings took place in May and June.

Robbery was the cause of killing in ten of the one hundred eighty-two homicides. There are a multitude of causes besides robbery, most of them flimsy excuses; quarrels over women; drunken brawls; jealousy; gambling; family trouble; and the like. Direct information was received on one hundred thirty-one cases with reference to influence of alcohol. Between forty and fifty per cent of the killings heard from on this point were associated with liquor in some way or other. In forty-five cases it was reported that either the slayer, the deceased, or both, were under the influence of intoxicating drink. Four negroes were killed at whiskey stills by officers and in several other cases the killings resulted from quarrels over whiskey.

From a continuous study of the homicide situation in Mississippi for the past few years it is believed that the high rate is due to the sparsity of legal executions; too few convictions; and abuse of the pardoning power in the past. There would not be half so many murders in Mississippi if the slayers knew that their chances for escaping punishment are minimal.

The epidemiology of the outbreak of encephalitis in St. Louis has since the beginning pointed to the possibility of mosquitoes as vectors of the disease, but as the epidemic has progressed this theory of mode of transmission has gradually given way to the contact theory as is held by most authorities in the case of poliomyelitis. However, since the mosquito theory has been extensively discussed, and is held by some individuals to be the most likely mode of transmission, it has been necessary and essential to determine this point. Negative evidence of mosquito control measures would, in the presence of epidemics, be avoided.

Therefore, on September 19, the U. S. Public Health Service made known to the Mississippi State Board of Health its wish to conduct an experiment in the Mississippi Penitentiary to prove or disprove the theory that encephalitis is transmitted by the mosquito.

A joint request was promptly made by the U. S. Public Health Service and the Mississippi State Board of Health to Governor Conner to select ten prisoners, between the ages of 21 and 39, who would volunteer their services for the experiment. The Governor gave his consent and out of fifty prisoners who volunteered, ten were selected to take part in the experiment.

Mosquitoes which had fed on the bodies of persons in St. Louis having encephalitis were brought to Sunflower Hospital, Parchman Prison Farm, and were given human blood meals from the arms of volunteers.

So again, Mississippi's penitentiary in which Goldberger proved to the world the etiology and therapy of pellagra, has become a laboratory for science.

Possibility of executive clemency for the "volunteers to science" was seen in the precedent establishd by Governor Earl Brewer in connection with the pellagra research of the late Dr. Joseph Goldberger in 1915.

Dr. W. T. Harrison, of the U. S. Public Health Service, and Dr. W. P. McDavid, penitentiary physician, are assisted by others in the experiment.

Results of the experiment will be made known as soon as the work is concluded and sufficient time has elapsed for development of symptoms, if any.

In connection with the encephalitis experiment just described, the following brief story of the Goldberger pellagra experiment in Mississippi in 1915 will doubtless be interesting to the readers of the Journal.

In 1915, Goldberger and Wheeler, of the U. S. Public Health Service, made an experiment, attempting to produce pellagra in healthy men. This experiment was carried out at the farm of the Mississippi State Penitentiary, a few miles east of Jackson. On an isolated spot at this farm of 3200 acres, there is a prison camp, with cottages for officials, a hospital, barn, stables, and the like. During the period of the experiment, there were quartered in this camp an average of between 70 and 80 convicts, all white males. In this number were twelve, who, accepting an offer of pardon made them by Governor Earl Brewer and with the assurance of proper care and treatment should such be needed, volunteered to submit themselves to the experiment. There had never been a case of pellagra on the farm.

The twelve men were quartered in what was called the "new hospital building," a small screened one-

liver is reduced in size, jaundice appears and there story cottage about 500 feet from the "cage" in which the other convicts were domiciled. From the time of its organization the squad was strictly segregated and under guard day and night. From February 4 to April 19, 1915, these men were kept under observation without any change in diet. Having detected no evidence of pellagra during this preliminary period and having established the desired routine of work and discipline, the diet was changed at noon April 19, 1915. On July 1, 1915, one of the men was discharged from the squad on account of prostatitis. This left eleven, with ages running from 24 to 50 years, who remained on the prescribed diet until October 31, 1915.

The quality and quantity of food consumed weekly by these men were as follows:

Biscuits 41.81 lbs.; corn bread 24.56 lbs.; grits 27.06 lbs.; rice 24.25 lbs.; fried mush 22.87 lbs.; brown gravy 37.81 lbs.; sweet potatoes 23.62 lbs.; cabbage 4.25 lbs.; collards 23.75 lbs.; cane syrup 5.94 lbs.; making a total of 255.67 lbs. of food consumed during the week, or 3.32 lbs. per man per day, having a caloric value of 2,952 calories per man per day. The sugar was white granulated, the syrup home-made cane syrup. No vegetable fats entered into the diet. The corn meal grits were the best quality obtainable in the local market."

The weekly work performed by these men was as follows: White-washing fences and buildings, two and one-half days; sawing lumber, two days; resting two and one-half days.

The entire population of the camp was kept under observation and served as controls. The work done by the volunteers was about the same as that done by the other convicts, such differences as existed were in favor of the volunteers, especially during the latter part of the experimental period. The general sanitary environment was the same for volunteers and controls, but the hygienic environment—personal cleanliness, cleanliness of quarters, freedom from insects, especially bedbugs—was decidedly in favor of the volunteers.

Of the eleven men on the above diet outlined above, not less than six developed symptoms, including a typical dermatitis, justifying a diagnosis of pellagra. The nervous and gastro-intestinal symptoms were mild, but distinct. The dermatitis was first noted between September 12 and 24, 1915, or not later than five months after the beginning of the restricted diet. The skin lesion was first recognized in all cases on the scrotum. Later, lesions appeared on the backs of the hands in two cases and the back of the neck in one case. A diagnosis of pellagra in these cases was concurred in by Dr. E. H. Galloway, secretary of the Mississippi State Board of Health; Dr. Nolan Stewart, formerly superintendent of the Mississippi State Hospital for the Insane at Jackson; Dr. Marcus Haase, professor of dermatology in the University of Tennessee; and Dr. Martin F. Engman, professor of dermatology in the Washington University Medical School, St. Louis, Mo.

From these experiments, Goldberger and Wheeler concluded that pellagra had been caused, in at least six of the eleven volunteesr, as the result of the restricted diet on which they subsisted.

A special program of dairy improvement work in south Mississippi was started in April, 1933, in conjunction with one Mississippi and two Louisiana milk plants which secure a part or all of their milk from Mississippi dairies. Improved sanitation at these daries was necessary in order to enable the milk shipped into Louisiana to meet certain requirements of the Louisiana State Board of Health. Because the Mississippi State Board of Health had no funds to take on this additional work, the active co-operation of owners of the plants was secured and they agreed to pay the cost of an inspector who would be responsible to the Mississippi State Board of Health and who would spend his full time working with the patrons of these plants. This work has been in progress four months and much interest has been manifested by the producers in improving their dairies. As a result of this effort a definite agreement was reached with the Louisiana State Board of Health that this improvement work would be on the basis of the requirements of the Standard Milk Ordinance of the U. S. Public Health Service. Satisfactory compliance with these requirements on the part of the south Mississippi milk producers will insure the retention of this market for Mississippi milk.

James G. Chastain, newly elected superintendent of the Jackson schools, formerly of Leland, wrote the State Board of Health on May 13, 1933 the following letter:

"Dr. Perry (the county health officer) has recently concluded his work in our preschool clinic, and we had the best and largest clinic we have ever had. As a result of the preschool clinic, we find that our attendance in the first year of a child's school experience has been greatly increased. We have had fewer retentions and repeat students than ever before. If a county could be brought to realize that a health officer practically saves his salary on this item alone, no county would be willing to do without a full-time health unit. The work of our doctors and nurses in Washington county has been outstanding, and I, personally, am keenly appreciative of your interest in us and of the excellent services rendered our schools by the State Board of Health."

The school children of Jackson are fortunate to have at the head of the schools a man so interested in their health.

Dr. George E. Riley of the State Board of Health, was awarded his Certificate of Public Health at Johns Hopkins early in June, and spent three weeks in Florida observing the malaria control program carried on there before returning to Mississippi on July 1.

Dr. A. L. Gray, former director of the Copiah County Health Department, is now in charge of the Epidemiological Unit for the Mississippi State Board of Health. Dr. Gray recently earned his Master of Public Health degree at Harvard University and has spent much time in working with and observing the work of several leading epidemiologists of the country.

Democracy cannot rise above the level of the human material of which its voters are made.—Bernard Shaw.

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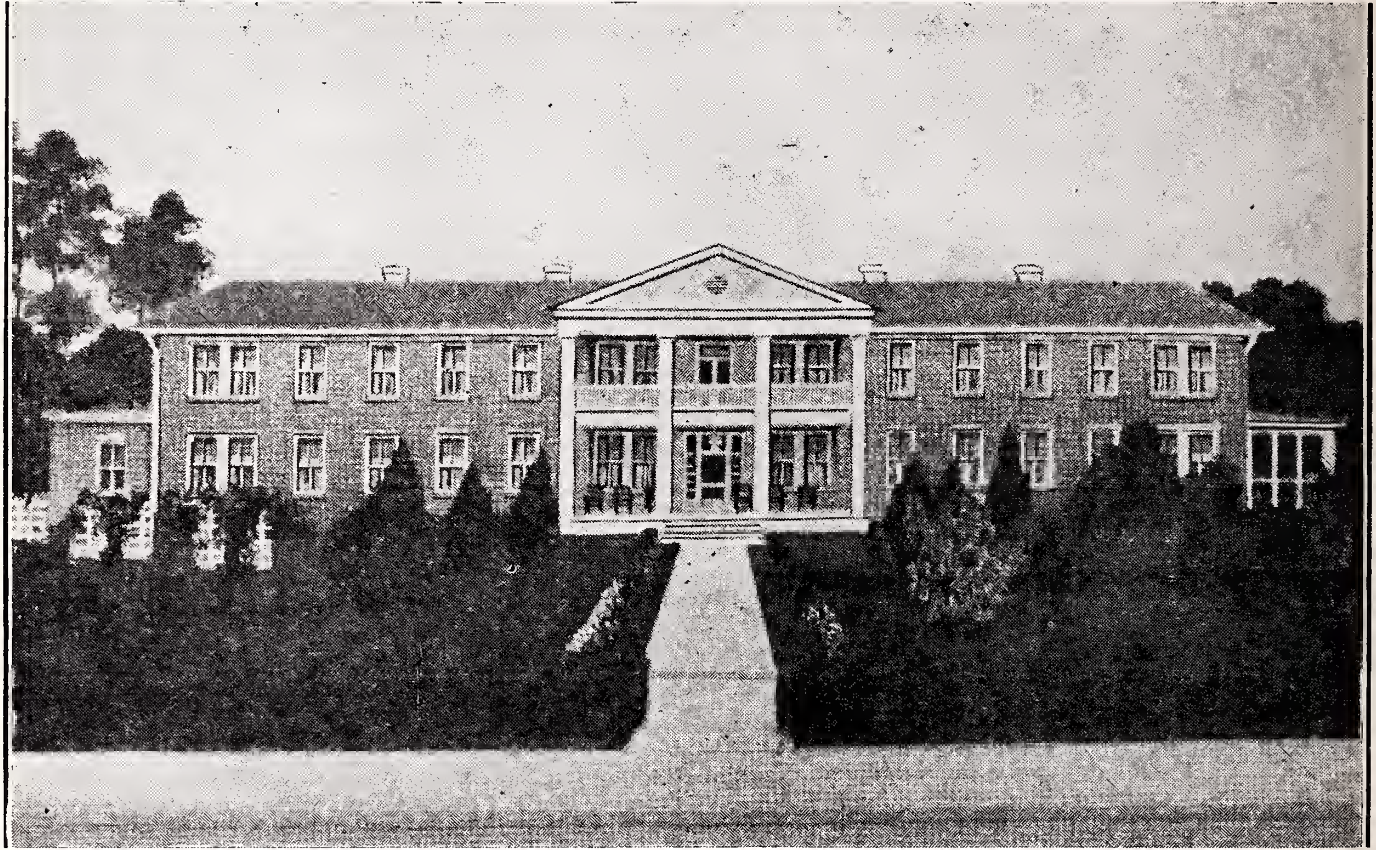

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THE MISSISSIPPI DOCTOR

VOL. 11 BOONEVILLE, MISSISSIPPI, NOVEMBER, 1933 NO. 6

ARMISTICE, 1933

The hounds of hell are leashed at last.
Lord, fix their fetters firm and fast.
Where these have ranged, the fields are red
With mangled millions, wounded, dead.

Along the trenches, grim with gore,
The crashing cannon booms no more.
No hand grenade nor bomb is hurled.
Thank God, the battle-flags are furled.

This sudden silence, after years
Of din and tumult, wounds the ears;
And soldiers schooled to kill their kind,
With tears of gratitude, are blind.

Ten million threats in every tongue,
Which long their hymns of hate have sung,
Are thrilling now in sweet accord
With songs of peace unto the Lord.

That day of music and of mirth,
We hoped, had healed the wounds of earth,
Had cleaned our hearts of every hate
In every soul of every state.

But fifteen years have come and gone
And hymns of hate are sounding on;
And though the battle fields are fair,
The stench of war is in the air.

The League of Nations sits forlorn.
Each day, a hound of hell is born.
From year to year, we prate of peace
While arms and armaments increase.

Bowed down by debts that war has made,
Of solemn treaties still afraid,
We shudder at the thought of war,
But follow still the Lead of Thor.

Lord, give us eyes with which to see
The trail of Christ of Galilee,
The path of peace, His feet have trod,
The only path to peace and God.

David E. Guyton,
Blue Mountain, Miss.

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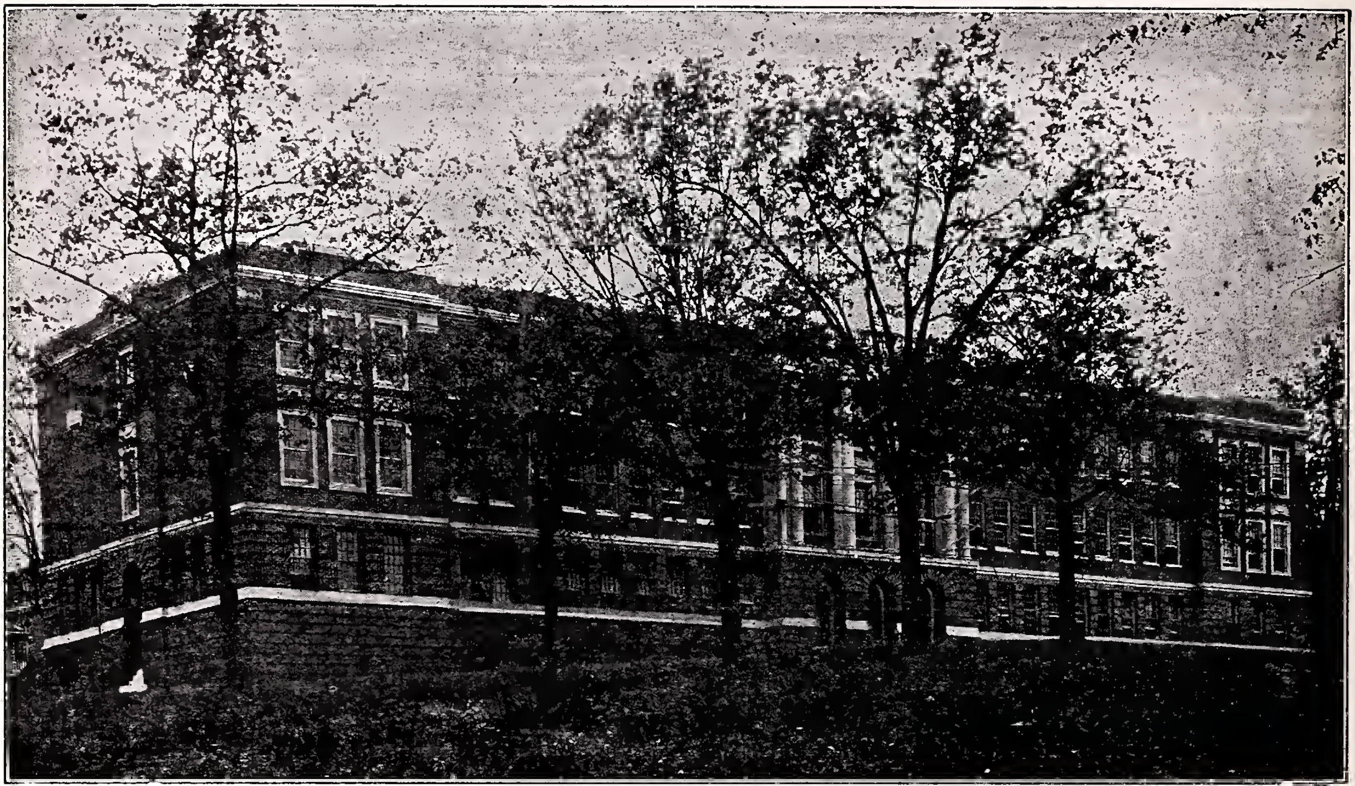

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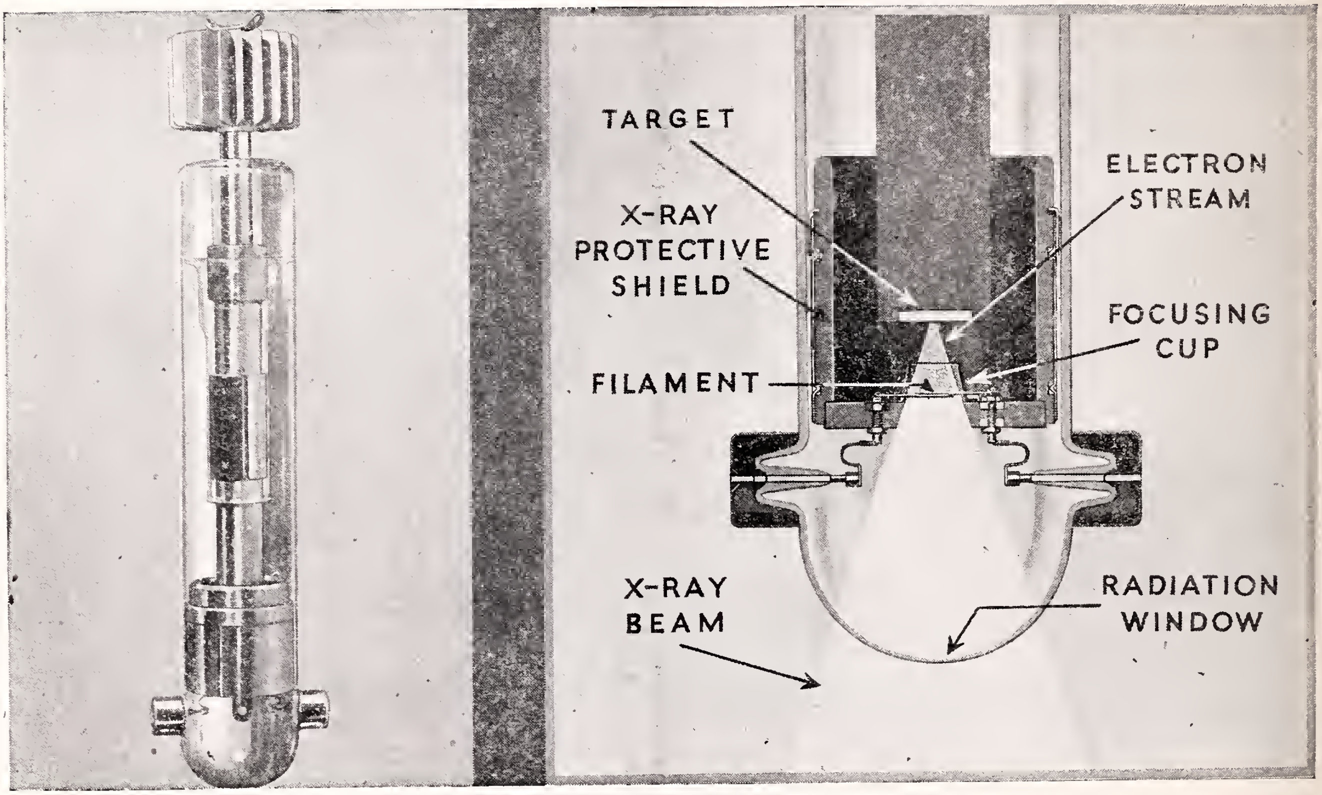

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—AND—
NORTH MISSISSIPPI MEDICAL SOCIETY
—AND—
MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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The community hospital committee of the Mississippi State Medical Association is fostering a bill asking for fifteen cents per capita for the indigent poor. Under this plan each county would receive an amount in proportion to its population. The charity patient then would have an opportunity to go any where he desired for his medical service or his operation. This plan is fair and just from every angle. A few members of the legislature and a newspaper or two are raising the cry of "pork barrel" legislation against this bill. They leave the impression that this bill would make private hospitals rich. The doctors have sacrificed more than any other class to try to provide modern medical and surgical service for people out in the small town and the rural community. All they are asking is for the actual expense of the patient in the hospital. Many of the hospitals have been built by the towns or by donations. But if this be pork barrel legislation, it would be much better to have a small "pork barrel" in every county or every two or three serving all the people than to have "five sugar barrels" in five of our largest cities serving one fifth of our population at the expense of all. The southern people have been helping to pay the pensions of the Yankee soldier all these years and then in addition have been paying what they could to help their own deserving boys who wore the gray. The farmer by the side of the road and down by the mill and the country doctor have paid their part to the state owned hospitals and then have been trying to struggle along and take care of their own indigent sick. The system has been unjust and unfair. A hospital system divided against itself can not stand. We can not remain half pork and half sugar barrel. We must have a just and a fair distribution of charity funds.

Organization is becoming more and more important in the medical profession. Under present conditions it is really imperative. It is better for the members of the profession and it assures better service to the public. Our profession has carried a heavy burden for the last three years, heavier than any other, we believe. Many have found it hard to pay their state medical dues, and hard to take the journals they would like to take. In our society many have not paid their dues for the last year or so. Conditions are much better now. The time is at hand for the payment of dues for next year. Really you can not afford to neglect your local and state dues. You owe some of your time to organized medicine. Organized medicine will pay you big returns for the time and money that it exacts of you. Your local and state medical society constitute your professional mother. You should be true to her by attending her meetings and paying your dues. To fail to do either brands you wrong. It creates in you the wrong attitude of mind. Success and prosperity shuns the man who shuns his local society and the paying of his dues. He develops professional indigestion and medical hypo-thyroidsm. His professional handshake becomes cold and his interest in his clientele is usually not so genuine as it should be. In our society let us have a hundred per cent paid as you go membership for 1934.

Plans are under way to extend more service to the indigent sick in their homes by the R. F. C. The medical profession is to have more consideration under this plan. A schedule of fees are being worked out, really have been already agreed upon, for the doctors. Our medical council with president Dicks have been in conference with Mr. Powers and others working out the details. Under this plan of organization each county will constitute a unit. Counselor M. W. Robinson is asking that the doctors of every county meet at once and elect a president, vice president and a secretary and be ready to carry out the rules and regulations agreed upon. This county unit will elect delegates to the state medical association. Dr. Robinson suggests that the vice president of each county call a meeting at once of this organization. We suggest that you do this and report the meeting to him. Alcorn county has already organized. The officers are Drs. J. R. Hill, president; F. C. Gilbert, vice president; and A. Dabney Hurt, secretary-treasurer. We should organize and should co-operate in every way for our own good and for the good of the people in need of medical service.

It is now time to begin to lay your plans to attend the next meeting of the Mid-South. It is a post graduate course all in four days. You get a symposium covering the fields of medicine and surgery by our best authorities and get it in a concentrated and practical form. And it helps you to spend a few days in the friendly and cordial city of Memphis.

Dr. H. M. Williams, of Aberdeen, read the paper on Hernia that you read in this last issue of the journal. His name was left off. We believe this was his first paper before our society. This paper indicates that he is a thorough student in surgical subjects.

It seems to be all right for the Red Cross and the R. F. C. to pay the regular price for drugs for the poor without asking a question, but when it comes to paying the doctor they want to skin a flea for his hide and tallow and keep both.

Dr. T. B. Sellers of New Orleans is to be the out-of-town essayist for the December meeting of the North East Miss. Medical Society.

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The Fracture Problem—Symposium

BY WILLIS C. CAMPBELL, M.D.
Memphis, Tenn.

During the past two decades there has been a great increase in the frequency of occurrence of fractures, and also in their severity. This is due to the extensive industrial development in this country. The fracture problem is nation-wide as the building of goodroads has brought the possibility of serious accidents to every hamlet, however remote.

Numerous poor results are apparent by the number of cases with mal-union, non-union and permanent impairment of function. The public is demanding better results which can only be accomplished by efficient methods of treatment. A large percentage of fractures have been and always will be treated by the general practitioner, and excellent results can be accomplished by applying details of comparatively simple methods. Every case is an individual one, but there are certain definite routine measures which are applicable to all and may be described as follows:

1. After determination of the status of the patient the injured part should be examined to determine circulation and innervation after which the part should be immobilized to conform as near as possible to the normal anatomical position. This should be carried out at the place of accident. Excessive motion of the fragments in transportation may cause severe damage to soft structures, as muscles, tendons, nerves and blood vessels, which may terminate in permanent damage, or even death may ensue from further shock or hemorrhage. The splints should extend for a considerable distance on both sides of the joints adjacent to the fracture. The necessity of such measures was so apparent during the World War that splint teams were active on all fronts with orders to "splint 'em where they lie."

2. X-rays must be made in both dimensions before reduction to determine the relations and contour of fragments, and again after reduction when the splints have been applied.

3. At the end of one week after reduction a roentgenogram should confirm the position of the fragments without removing the splints or cast, for displacement more often occurs during this period, and can more easily be rectified than later.

4. Inspection of the part after removing splints or cast should be made while the callus is pliable so that any angulation may be corrected. This period varies from two to four weeks, according to the age of the patient, location and severity of the fracture. The part should be handled with great care so as not to disturb the evolutionary process of healing. X-rays are again made, before fixation is again applied.

5. At such time when union should be solid, which varies as to location and other conditions, the splints are removed and by manual examination union or consolidation is determined. The roentgenogram is also made to finally determine the position of the fragments, but is not reliable at this time to definitely confirm the degree of union. For instance, excessive callus may be so arranged about the ends of the fragments as to give the appearance of a bony bridge or solid union though there may be a consid-

erable degree of motion between fragments. Conversely there may be no apparent callus, the fracture line appearing the same as after reduction, but the fracture clinically united.

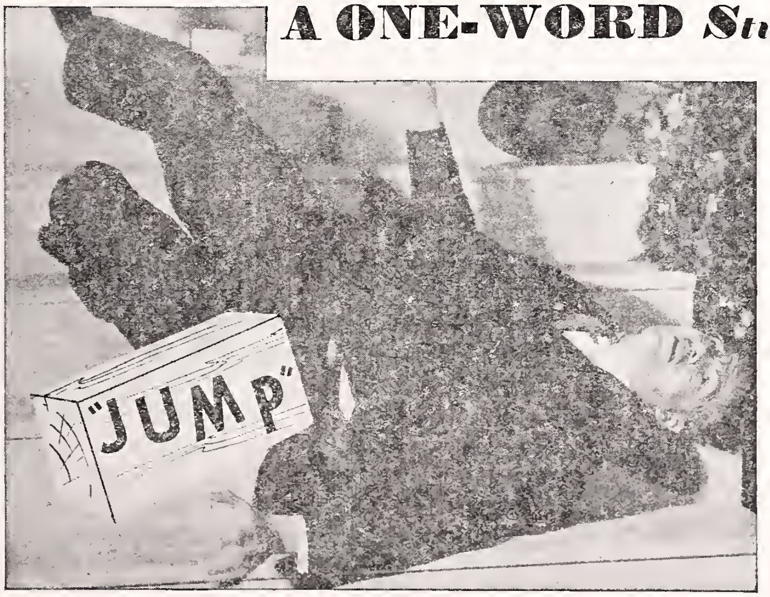
When motion is apparent between fragments there should be no cause for alarm, as there is no arbitrary period of consolidation, and good results may often be secured by a continuance of the same line of treatment.

In certain fractures, especially in the lower extremity in adults, further protection is required by apparatus which permits weight-bearing, as angulation may occur causing a disastrous result after union is clinically solid. The technique above described must be modified in exceptional cases, and in fractures of the hip, spine, fractures without displacement and those in the vicinity of joints, a discussion of which space does not permit.

In the management of fractures we must realize that there is not only a break in the continuity of the bone but a traumatized member, and the physiological repair of all of the component parts must be duly considered if restoration of normal function is to be secured. In order to obtain normal healing within the minimum space of time the area between the fragments or the blood clot must remain intact, and surrounding this area there must be one with excellent blood supply. Therefore, if by repeated and too forcible attempts to reduce, the delicate process of healing is disturbed, there will be impairment in healing and a defective callus may be produced that will permit displacement. Also, if the blood supply to the affected region is impaired by traumatization at time of injury, or later during treatment the same result may be expected. Fractures as a general rule heal more rapidly in the young, but regardless of the age there are certain terminal fractures in which the blood supply is served and the physiological process is retarded or actually prevented, as displaced fractures of the humeral condyles and intracapsular fractures of the neck of the femur. In the latter the blood supply to the head is derived chiefly from the neck of the bone and when there is a break in this region the head or proximal fragment must depend alone on small vessels in the ligament teres, which may not be sufficient for normal nourishment and the head may become an aseptic sequestrum, or there may be sufficient nourishment to keep the head alive, but not for the production of callus. Therefore, most accurate reduction and a longer space of time is required for union when secured.

After immobilization in many instances the bone undergoes a process of atrophy known as osteoporosis, in which much of the lime salts are absorbed, and the symptoms are pain, swelling and cyanosis. This condition is more frequent after middle life and is probably due to a disturbance of the vasomotor nerves controlled by the sympathetic system. Osteoporosis can be prevented by permitting early function though maintaining fixation of the fragments. For instance, in certain fractures about the ankle walking may be often permitted as soon as reduction is accomplished, this not only prevents atrophy of bone but maintains all tissues of the extremity in a normal status, obviously materially decreasing the period of disability.

Ninety percent of fractures can be treated by



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manual reduction with retention until union is solid with conservation of function. About ten per cent require skeletal traction or open reduction. At the present time much more attention is given to measures which are applicable in a small minority of cases. Open operations when indicated, are a necessary evil, as the healing process is more or less impaired, and union requires a longer space of time as a general rule, and if the operator detaches the periosteum and soft structures from which the blood supply is derived further and often permanent damage may result.

The argument may be advanced that such a routine as above described is impracticable or too expensive, but what patient would object to the expenditure of a few extra dollars to avoid the possibility of a permanent disability or future operative measures with longer confinement and often the possibility of securing less function to the member than could have been acquired if properly treated when the injury occurred. Besides there is no condition in the realm of medicine or surgery where the personal responsibility of the physician is greater.

Programs for Medical Meetings

BY R. C. SMITH
Drew, Miss.

Holding the office of vice-president of this Delta Medical Association and being responsible for obtaining a part of the program has caused me no little worry a few times to obtain essayists and has occasioned me to write this paper.

I have no criticisms that are prompted by anything other than the hope that I may be able to serve to raise our standard of papers presented and to make it easier to obtain the co-operation of all physicians in making and rendering programs.

First—Too few men are willing to put in the necessary time for study to present a paper to a medical meeting that they themselves are willing to be heard and criticised by their fellow practitioners. Many of us have not the time or the secretary to aid in getting data.

Second—Does our observation and participation in Medical Meetings inspire us to make this effort, to endure the criticism of men that have had better opportunities, and less to do in the rendering of aid to the sick, for we must realize that it does occur when one has done his best that his efforts are not always sympathetically appreciated.

Third—In our common desire and practice we want a well rendered and elevating program and I concede we should always strive toward this end.

Therefore, I would urge in our aim to this end we each determine to render our best when called upon and the young men in our profession should be given preference in our programs. Privileged to attend the American Medical Association one sees the greatest men and we learn much from them but there we can soon learn that what is rendered in the way on an intellectual program is not received as might be expected. I remember being in Dallas, Texas at the American Medical Association meeting a few years past and Dr. Morse of Harvard Medical School and a Pediatrician of national recognition had a paper that I was very anxious to hear. I am sure there was not more than one hundred attended this section of the meeting. When he had finished I rushed to the surgical section to hear a man of national note. Much to my amusement I could not get near the door and it was only possible for me to hear him with the aid of a loud speaker. He was discussing a subject of little aid to a general practitioner but being heard by thousands which only goes to show that we still look for the spectacular and fascinating things in medicine.

A review of programs rendered at our state meetings will show that internal medicine, obstetrics, and pediatrics, the things we general practitioners need more of is sadly in the minority column. This is especially true with reference to obstetrics. And yet at some of these meetings, we, to be polite, have to listen to some Public Health Representative tell the wonders they are accomplishing in developing midwives in the state. I only make mention of these things to help us awake to the responsibility we are under and owe to our profession to the end that we may expect and be willing to give our best.

At a meeting of our State Association a few years past we had a visitor that I regard as the most brilliant speaker we are privileged to hear on the subject of medicine. After the usual compliments, after introductions, he said that he desired to give us a resume of the latest exegesis of Exophthalmic Goiter. We listened with awe and admiration to that wonderful rendition. Well, I just forgot to carry all he said home with me.

The Delta Medical Society has been exceedingly fortunate to have as well rendered programs as we always have and from men within our own ranks for we do have them of our membership that can give as well balanced papers as are heard in the American Medical Association, Southern, Mid-South, and State Meetings. This is well and good, very much to our credit, but are we not slow to get response at times?

So much for the scientific part of our programs. Can we say as much for the after dinner and before dinner indulgences? I would urge that we conduct ourselves in that dignified way so that at no time you would have a hesitancy in accepting the deep responsibility with a clear mind, a steady hand and a kind heart, for duties well rendered be it in the birth or death chamber of your home, your patients', or the home of a fellow practitioner, ever using as your example the life of Luke, The Beloved Physician, who wrote the perfect record of the Great Physician who never made a mistake in diagnosis or ever failed to heal all who called upon Him.

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Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION
Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

Report of the Woman's Auxiliary to the Mississippi State Medical Association, 1932-1933

The paid up membership this year is 197, a gain of 64 since the New Orleans Convention.

ORGANIZATION: Mrs. W. C. Pool, President, has visited every district in the state. She organized the Winona District, comprising five counties, and an auxiliary to the Delta Medical Society, comprising five counties, with a membership of 30.

Simpson County was organized.
Tri-County and Pike were re-organized.

Some counties were unable to pay their dues on account of the bank moratorium.

PUBLIC WELFARE: Our state adopted project is assistance to the Mississippi State Tuberculosis Preventorium. For this $73.50 was provided by the counties' auxiliaries. Letters were sent to every federated club of the state, 21 of which contributed towards this fund. Each county auxiliary has its own philanthropic project, assisting nurses homes, providing milk for babies, making layettes, aiding tuberculosis seal sales ,red cross drives and child health clinics.

EDUCATIONAL WORK: Study envelopes have been sent to each auxiliary and effort is being made to stimulate their use.

The tuberculosis leaflets, "Thistles and Tuberculosis," have been supplied to one unit and another has requested them.

Biographies and works of several famous physicians have been studied.

The life of Jane Todd Crawford has been presented at almost every auxiliary and at many federated clubs.

PRESS AND PUBLICITY: Through our efficient press and publicity chairman, Mrs. L. S. Lippincott, our State Journal has given us generous space and has been used for both state and national news.

We are glad now to add the Mississippi Doctor as a means of Press and Publicity.

Information concerning the activities of other auxiliaries brought to us through the national news letter has been a source of inspiration. We are making an effort to get our members to read the auxiliary pages in the Bulletin of the American Medical Association.

THE HAND BOOK: The hand book has been supplied to each auxiliary president and some state officers.

PUBLIC RELATIONS: Heretofore we have had no public relations chairman, but realizing the importance of this phase of auxiliary work, one has been appointed.

Mississippi has enjoyed and been greatly benefitted by the presence of two national officers this year, Mrs. W. R. Brooksher, Jr., second vice president, having visited Greenwood, and Mrs. Arthur B. McGlothlan, immediate past president, representing Mrs. Percy. We have enjoyed the whole hearted co-operation and support of the Mississippi State Medical Association.

(Signed) MRS. W. C. POOL,
President, 1932-33
MRS. AGNA G. WILDE,
Secretary, 1932-33

FROM OUR PROGRAM CHAIRMAN

Dear Auxiliary Members:

Due to unavoidable delay we are just now getting the program year book out to each Auxiliary. The following is a description of the booklet:

This booklet is dedicated to our great friend and advisor, Dr. Ewing Fox Howard, Vicksburg, who passed away recently. On the first page is a picture of our able president, Mrs. Frank L. Van Alstine, Jackson. Then follows a list of the officers, National, Southern and State, charter members and ex-presidents. A picture of Mrs. Dan J. Williams, Gulfport, who organized our Auxiliary and was first president, serving two years. The next page is a sketch of the history telling where organized and date, state work, membership campaign, number of members and number of Auxiliaries. The subjects which we are offering are as follows:

I—SOCIAL
II—Preventorium
  (a) History
  (b) What benefit to children
  (c) The Auxiliary work pertaining to the Preventorium
III—Hygeia
  (a) Value as a magazine in the home
  (b) Value in the school
  (c) General discussion
IV—Public Relations
V—Jane Todd Crawford
VI—Public Health
  Discussion of Quiz Compend
VII—Life of Joseph Lister
VIII—Animal Experimentation
  "The Dog's Gift to the Relief of Human Suffering."
IX—SOCIAL

The last few pages contain a copy of the constitution and by-laws.

I want to call your attention to the programs as the committee suggests that they be given. The first is social.

As we are having a membership campaign each member take or most cordially invite as many nonmembers to this meeting as possible. Make this a delightful social and discuss your programs for following meetings. In this way you learn of the interests of the ones present and enables you to follow up with programs which are of interest locally and approved by your local Medical Society. We find that Auxiliaries which have a few minutes instructive program followed by a social have splendid attendance and good fellowship.

Program II—Preventorium. We have all data for this program which we will be glad to send to you.

Program III—Hygeia. Mississippi has not been successful in getting as many magazine subscriptions as we wish. Your state chairman, Mrs. C. E. Mullins, Bude, can supply you with sample copies and the rate of subscriptions. Mrs. Mullins will be glad to hear from you and help any way she can.

Program IV—Public Relations. The object of this program is to bring about a better understanding between the profession and the public. It is recommended that the leaders of important organizations in the County be invited to this meeting, entertain them as well as instruct them along lines on the aims of the Medical profession in the advancement of health education. We suggest a talk on Medical Economics as our doctors are now experiencing it and what we can do in our small way to awaken the public to the fact not to forget the family physician who is always ready and willing to more than do his part for patients friends and community. A talk by a member of the Auxiliary and a practicing physician from the Medical Society would make a fine program.

Program V—Jane Todd Crawford. This needs no explanation. So many used this program last year and found it most interesting.

Program VI—Public Health. This discussion of the Quizz Compend would be most instructive.

Program VII—Life of Joseph Lister. This is written by Claude Lillingston and will be found interesting and instructive.

Program VIII—Animal Experimentation; "The Dog's Gift to the Relief of Human Suffering" was prepared by Walter B. Cannon, M.D., and Cecil K. Drinker, M.D., and is a reprint from the New England Journal of Medicine Sept. 15th, 1932. We all know that the devotion of a dog to a man is very great and after reading this article we are sure we will all feel that the dog is really a friend to man.

Program IX—Social. Make this a real genuine good time party, bring your doctor as your guest and let good fellowship be the key of the evening or whatever time you may select as your "party time."

We have a good many topics on hand and would be glad to help you arrange whatever program you think best suited to your group.

Please write me how you like the booklet. The printing of this little booklet was made possible by a physician who is a great friend of the Auxiliary. I feel that each of you join with me in thanking him for his thoughtfulness and generosity.

Again I ask you to let me hear from you in regard to your programs.

Best wishes to all.

Yours sincerely,
MRS. W. C. POOL,
Program Chairman

Mrs. Pool, Program Chairman, was an untiring and earnest officer during her term as president of the Woman's Auxiliary, 1932-33. In spite of "old man depression" she increased our membership and maintained interest to the extent that 1933 found us on a well organized and happy plane. She visited every Auxiliary and assisted at the organizations of the Delta Auxiliary to the Delta Medical Society and the Winona Auxiliary. She was and is a whiz. (Mrs. Williams).

Minutes of the Meeting on Community Hospital Legislation

OF THE MISSISSIPPI STATE MEDICAL ASS'N. HELD IN THE STATE CAPITOL AT JACKSON, JUNE 19, 1933

Meeting called to order by Chairman Nobles.

Motion made by V. B. Philpot and seconded by W. H. Anderson, and which was carried by a unanimous vote, as follows:

That the Chairman be authorized and instructed to make engagements at all hospitals in Mississippi willing to co-operate, for representatives of the committee on Community Hospital Legislation, together with officials of the Mississippi State Hospital Association, to visit the various institutions in pairs for the purpose of disseminating the true facts in reference to the program of this committee and the bill fostered by this committee to be presented to the next Legislature for the care of charity patients in all hospitals in Mississippi. At these meetings the respective hospitals are requested to invite their staff and neighboring doctors; members of the State Legislature of their respective communities; all newspaper men; and other citizens who might be influential in legislative matters.

The representatives of the committee on Community Hospital Legislation and State Hospital officials above mentioned shall carry with them the following data:

A report of the committee on Community Hospital Legislation of the Mississippi State Medical Association; a copy of the proposed bill fostered by this committee; and such other data as may be available. And their duty shall be to explain to all present at each meeting the full program of this committee. The Chairman, Dr. E. R. Nobles, is further directed to notify the members of the committee and officials of the State Hospital Association just which hospital each of them will visit.

2nd. On motion of J. P. Culpepper, seconded by R. B. Caldwell, officials of the committee on Community Hospital Legislation and State Hospital Association were authorized and instructed to circularize the Governor, the Lieutenant-governor, and members of the Mississippi State Legislature, all hospitals and newspapers in Mississippi, with literature pertaining to Legislation in reference to the care of charity patients in all hospitals in Mississippi, as follows:

On July 3rd, Chairman Nobles and Secretary Philpot of the committee were instructed to send each of the above mentioned parties a letter explaining briefly the reason for this proceedure and enclosing a copy of the report of the committee on Community Hospital Legislation from the Mississippi State Medical Association.

On july 10th, Chairman Nobles and Secretary Philpot were instructed to send to each of the above mentioned parties a copy of the bill proposed by this committee.

On July 17th, Dr. Leon Lippincott, Secretary of the State Hospital Association, was requested to mail to each of the above mentioned parties a copy of past President Acker's presidential address.

On July 24th, Secretary Lippincott was requested to send to each of the aboved mentioned parties the presidential address of Dr. J. G. Gardner, past president of the State Hospital Association.

On July 31st, Dr. R. J. Fields, President of the Mississippi State Hospital Association, was requested to send to each of the above mentioned parties the address of Drs. E. R. Nobles and V. B. Philpot made before the Mississippi State Hospital Association at its last meeting.

3rd. The Secretary of the committee on Community Hospital Legislation was requested to furnish Drs. Nobles, Lippincott, and Fields, with the list of all Legislators, all newspapers and all hospitals in Mississippi.

On motion of Dr. Smith, second by Dr. R. B. Caldwell the directors of the Mississippi State Hospital Association were asked to pay expenses for the printing of the various articles mentioned above, stamps and stationery for mailing same as outlined. Drs. J. G. Gardner, R. J. Fields, and V. B. Philpot were appointed as a committee to communicate with Secretary Lippincott to see if this can be accomplished.

There being no further business the committee adjourned until subject to the call of the Chairman.

E. R. NOBLES, Chairman
V. B. PHILPOT, Secretary

Alcorn Doctors Organize

All the doctors of Alcorn County gathered Thursday evening, October 19, at Waukomis Lake for a social outing and to form a county medical society. Dr. J. R. Hill was chosen president, Dr. F. C. Gilbert, vice-president, and Dr. A. Dabney Hurt, secretary-treasurer, all unanimously.

The following doctors were appointed as a committee by the president to prepare an announcement for the public on how delinquents and dead-beats will be dealt with: Dr. W. A. Johns, Dr. F. C. Gilbert, and Dr. G. W. Googe. The methods to be used were taken over in part from those of the St. Francis County Society, of Arkansas. The announcement, it was agreed, would be published in all three of the Alcorn county papers, with each member sharing the expense.

The doctors present:

Drs. D. W. Hamrick, J. R. Hill, Stanley A. Hill, W. W. McRae, M. H. McRae, A. Dabney Hurt, R. E. Honnell, W. A. Johns, S. L. Stephenson, Bernard Patrick, M. W. Robertson, C. F. Gilbert, C. W. Norwood and G. W. Googe. Those absent were Dr. Jay R. Lanning and Dr. J. H. Hughes. It was agreed to show this announcement to these absentees.

Dr. M. W. Robertson made a motion which was seconded and passed, that a committee be appointed to investigate and determine a way to obtain payment for work done on indigents from the R. F. C. Dr. S. L. Stephenson and Dr. C. W. Norwood were appointed to this commitee.

The next meeting was set for the Third Thursday in November at 7 o'clock P. M., place to be determined at call of the President. For this meeting the President and Secretary were selected to make arrangements for a "Dutch" supper.

A. DABNEY HURT,
Secretary-Treasurer.

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Transurenthral Resection of the Prostate

BY DR. H. KING WADE
Hot Springs, Ark.

It is not my intention in this presentation to attempt to add anything new to the literature on prostatic resection, but rather it will be my endeavor to emphasize certain facts that make this procedure a successful one in properly selected cases.

In presenting these facts I think you will be convinced that this procedure should not be attempted by the novice or occasional cystoscopist, but only by the well trained urologist. There are certain prerequisites necessary to the proper application of this surgical procedure, the first being a thorough knowledge of the pathological processes producing obstruction; and second, through training in the use of both the direct and indirect vision cystoscopes.

I will discuss briefly in this paper the following subjects: pathology of bladder neck obstructions; the selection of cases for transurethral resection; preparation of the patient; the operation; post operative treatment and complications.

PATHOLOGY

A comprehensive discussion of bladder neck pathology by Alexander Randall can be found in the November, 1932 issue of the Journal of Urology. In this article he discusses the three chief conditions that produce bladder neck obstruction, namely—glandular hypertrophy, carcinoma and median bar.

GLANDULAR HYPERTROPHY

Glandular hypertrophy may occur in either the lateral lobes, the posterior commissural tissue, the subcervical gland of Albarran, occasionally the posterior lobe or in the anterior commissure. Microscopically these hypertrophies are adenomata which form a false capsule.

In the simple bilateral hypertrophies there are two glandular masses separately undergoing enlargment. They do not show a tendency to dilate the sphincter or enter the bladder cavity. These produce lateral pressure on the urethra and cystoscopically we find a trabeculated bladder.

Second, hypertrophy arising from the posterior commissural glandular tissue gives rise to the condition know as middle lobe enlargement. It interferes with the function of the trigonal muscle. With this enlargement there occurs muscle hypertrophy.

Third, there is a combination of these two groups, commissural hypertrophy, which produces sphincteric dilatation, and lateral lobe enlargement. There are usually accompanied by a very weak, thin bladder wall and systemic conditions such such as cardiorenal complications.

Fourth, subcervical gland of Albarran which is another variety of median lobe enlargement. It is submucous in its origin, the trigonal muscle passing under it.

Fifth, combination of subcervical and lateral lobe enlargement. With this study of prostatic hypertrophy we have a better understanding of what is to be expected of resection.

CARCINOMA

The majority of carcinomata of the prostate are found to be true adenocarcinomata and may occur at a very early age. In light of recent day study we knew that carcinoma may start in and involve any portion of the prostate. It may invade the musculature of the bladder and retrovesical space. Obstruction in these cases is evidently due to an induration and infiltration of the structures around the vesical orifice with a narrowing of the lumen of the posterior urethra. Resection in these cases could only be for the relief of urinary retention.

MEDIAN BAR

This condition has many titles such as: "contracture of the vesical neck," "prostatism in miniature," "sclerosis of the internal sphincter," "atrophy of the prostate," "fibrosis of the vesical orifice." The pathology of these median bars is that of a fibrosis, stenosis of the vesical orifice with a production of residual urine. This condition is supposed to be due to chronic prostatic infection.

Caulk believes that some of these obstructions are inflammatory hyperplasias and not true neoplasms. Sections from these glandular masses seem to confirm this view point.

SELECTION OF CASES

In the selection of cases for resection the more experienced resectionist will attack conditions that the less experienced man will not, and should not. We find the usefulness of this procedure in correcting pathological changes of the vesical neck broadens in proportion to the experience of the resectionist. First, in the so-called median bar this method finds its greatest efficacy; second, enlarged middle lobe and slightly enlarged lateral lobes; third, middle lobe enlargement; fourth, obstruction due to carcinoma of the prostate; fifth, enlarged lateral lobes without median lobe enlargement; sixth, the aged individual whose general condition will not permit a more radical procedure, and seventh, those patients with constitutional diseases such as advanced renal pathology and heart lesions. Probably the greatest number of failures will be recorded in attempted resection of enormous lateral lobe enlargements. Enucleation of these is probably the operation of choice. However, I have seen cases of enormous lateral lobe enlargement in which the operation apparently was doomed to failure give a most satisfactory result. Most writers are in accord that resection is contraindicated in the large spongy prostate which bleeds readily and in which free manipulation of the instrument inside the bladder cavity is interfered with.

PREPARATION OF THE PATIENT

The preparation of the patient is of the utmost importance. All workers are in accord with the idea of preparing these patients as we do routinely for prostatectomy. First, drainage per urethra or su-

W. Likely Simpson, M.D. — Sam H. Sanders, M.D.
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prapubically until the infection is cleared up; blood chemistry within normal limits and a stabilization of the blood pressure. Second, kidney function within normal limits. Kidney infection, if present, cleared up. Third, urethral dilation up to No. 30 French sound if possible. Fourth, careful cystoscopic study with both the direct and indirect vision cystoscopes before resection is attempted. This is done with the idea of clearly visualizing the obstruction at the vesical orifice and the determination of the true pathology present. Fifth, vasectomy and lavage of the seminal vesicles preoperatively to prevent epididymitis is a good procedure.

If this for mof preoperative treatment is carried out carefully, the patient's general health will be much improved and the danger of resection minimized. It may require from three weeks to three months time to properly prepare the patient.

OPERATION

We prefer caudal injection and sacral block to spinal anaesthesia. An electric unit must be selected that gives both a good cutting current and a coagulating current. We make it a practice at the time of resection to again carefully study the vesical orifice before any cutting is done. After obstructing tissue has been removed, all bleeding points must be controlled and a No. 22 French soft rubber catheter left in place to secure drainage. We find it advisable to drain the bladder per urethra for from seven to twelve days. The catheter may be removed on the fourth or fifth day, but should be replaced by a smaller catheter so as to maintain drainage for a few days longer. The bladder should be irrigated with some mild urinary antiseptic to maintain free drainage at all times. Urinary antiseptics orally should be used throughout hospitalization and continued some time after the patient's discharge from the hospital. I prefer a hospitalization period of ten to fifteen days, as prolonged hospitalization minimizes the chances of secondary hemorrhage.

COMPLICATIONS

The chief complications that claim our attention are hemorrhage, infection, pyelonephritis and epididymitis. There are others that occur, but less frequently.

Hemorrhage is of extreme importance and it is imperative that careful hemostasis be maintained throughout resection. I see no reason why a fatality should occur due to hemorrhage. I would most assuredly perform a suprapubic cystotomy rather than endanger my patient's life from hemorrhage.

Although hemorrhage has been spoken of most frequently as the complication demanding the greatest attention, I have found in my work that infection is of great importance. Careful preparation of the patient preoperatively is our greatest safeguard against infection, although we have seen it occur when we felt that the preoperative treatment had

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been carried out most vigorously and skillfully.

Pyelonephritis is possibly due to an ascending infection or often it may be a lighting up of an old pyelitis that existed prior to resection. Free vesical drainage per urethra or suprapubically is imperative in these cases. Imbibing of large quantities of water and Uritone intravenously I find a great help in the management of these. Epididymitis is best taken care of preoperatively by vasectomy.

DISCUSSION

My experience with procedures for the relief of bladder neck obstructions dates back to the time that Caulk was making his valuable contribution to this line of surgery by the use of his cautery punch. I have operated upon sclerotic vesical orifices with most satisfactory results. I have used his instrument in small median lobe and moderately enlarged lateral lobes with good results; and after some experience with Dr. Caulk's punch, I mentioned the fact that I was certain that it would lessen the incident of prostatectomy and this has proven to be the case. We have all seen prostates removed wherein there was only a small amount of obstructing tissue which could have been easily removed with the punch operation or with the McCarthy visual resectoscope. With the advent of the visual resectoscope such as McCarthy's we have found it easy to remove a larger amount of tissue with the advantage of visualizing our work.

I do not subscribe to the enthusiastic statements of some operators that prostatic resection may replace prostatectomy. As the resectionist adds to his experience he can justifiably attack more formidable enlargements at the vesical orifice, but one who is not sufficiently experienced in the use of the resectoscope should not attempt the enormously enlarged lateral lobes or enormously enlarged middle lobes. Prostatectomy is the operation of choice in such hands.

In our enthusiasm over this form of surgery we must not forget the technique of prostectomy. I am convinced that more skill is necessary in the handling of the resectoscope than is exercised in prostatic enucleation.

In conclusion I wish to state that early recognition and correction of obstructive lesions at the vesical orifice will contribute greatly to the success of the operaton, and emphasize the fact that the relief obtained by this procedure is in direct proportion to the operator's experience and skill as a resectionist.

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Glandular Extracts In the Treatment of Functional Menstrual Disorders

BY DR. J. E. WADLINGTON
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Functional menstrual disorders are of the every day problems in the work of the general practitioner as well as the specialist, and no apology should be necessary for the consideration of one of the most difficult therapeutic problems in gynecology, which is frequently referred to as "A Minor Gynecological Disorder." These patients themselves scarcely concur in designating this as a minor disorder for it is the aggregate the cause of more suffering and invalidism than many conditions dignified by the appellation of major.

Only in the past few years with the intensive study of the physiology of the female reproductive system, has there appeared to be any hope of solving the treatment of these common ailments.

The therapeutic aspects of these problems are so utterly dependent upon the Etiological factor, that we will have to review the latest theory of menstruation as associated with the glands of internal secretion by Schroeder.

The anterior Pituitary body is known to secrete at least two hormones, a growth hormone, and a sex hormone. This sex hormone of the anterior Pituitary gland stimulates the primary ovarian follicle with corresponding maturation of ovum and the production of the follicular hormone. This follicular hormone is carried by the blood stream to the uterus, where it stimulates the endometrium to hyperplasia and thickening also causing a hypertonicity of the uterine musculature. This follicular hormone continues up to and beyond the time when the ovum is released by the rupture of the follicle.

The endomentrium attains its maximum thickness around the fourteenth day of menstrual and this corresponds to about the time of rupture of the follicle.

The ruptured follicle now becomes the foundation for the corpus luteum, which develops rapidly and immediately begins elaborating the luteinizing hormone. Under the inhibiting influence of this hormone, the endometrium becomes markedly engorged with torturosity of the glands. Thus the endometrium is modified for the needs of pregnancy, while the ovum is on its way through the tubes. When the ovum has been discharged from the uterus or death of the ovum taken place, the hormone of the corpus luteum fails and without this supporting inhibitor, the engorged endometrium breaks down. With the cessation of the luteinizing hormone of the corpus luteum the uterine muscles become hypertonic in nature; thus causing the characteristic menstrual discharge.

Since the treatment of the Functional Menstrual Disorders are so intimately connected with the glands of internal secretion and the establishment of the etiological factor in these cases gives us the key note to the treatment, I would at this time like to take up several of the principal disorders.

Primary Dysmenorrhea is one of the most frequent of menstrual disturbances, and it is usually impossible to demonstrate any abnormality in the pelvic organs, although the patient may suffer excruicating menstrual pain. The pain usually, but not invariably begins one or two days before the on-set of the menstrual flow and ceases after the flow is well established. This affection is most often seen in young unmarried women or in nulliparae.

Some authorities think that Primary Dysmenorrhea is the result of an obstruction to the existence of the menstrual flow arising from a kink associated with acute antiflexion. This does not explain the majority of the cases. Severe dysmenorrhea is frequently observed in absence of antiflexion and obstruction, and very sharp antiflexion is often noted in patients who experience no menstrual pain whatsoever.

Recent studies have found that the uterine muscle exhibits a normal rhythm of contraction, and after castration all uterine contractions disappear, and may be restored with the injection of the follicular hormone of the ovary. And these contractions of the uterus are inhibited by the injection of the corpus luteum principle or the sex hormone of the pituitary gland the anterior portion.

In applying the results of Primary Dysmenorrhea to the menstrual cycle, the hormone of the corpus luteum retrogresses a day or two before the menstrual flow begins, at just the time that the symptoms of dysmenorrhea commonly occur. It is, therefore, natural to assume that the rather abrupt withdrawal of the inhibitory luteinizing influence of the corpus luteum will allow full play to the stimulation of the follicular hormone of the ovary. The latter is present in the blood in increasing amounts from the end of one menstruation to the beginning of the next. After the formation of the corpus luteum the characteristic follicular hormonic effect upon the uterine musculature is inhibited by the hormone of the corpus luteum. The withdrawal of this inhibited is apparently responsible for the establishment of the hypercontractility of the uterine muscle and if it is in excess Dysmenorrhea results.

In treating Primary Dysmenorrhea we would naturally supply the insufficient hormone which in these cases seem to be the inhibiting luteinizing hormone of the corpus luteum. Since the Isolated Biological Hormone is not available as yet for medical purposes and we do have the Anterior Pituitary Sex Hormone which is very simular in its action and has a marked inhibiting effect on the uterine muscle. This hormone will be used in the treatment primarily.

Both the Ovarian follicular hormone and the Sex Hormone of the Anterior Pituitary gland have been isolated and a standard dose unit has been established, so in treatment we know exactly the dosage that the patient is getting and can vary accordingly in the treatment wherein the products of the desiccated glandular extracts the dosage varied from minute

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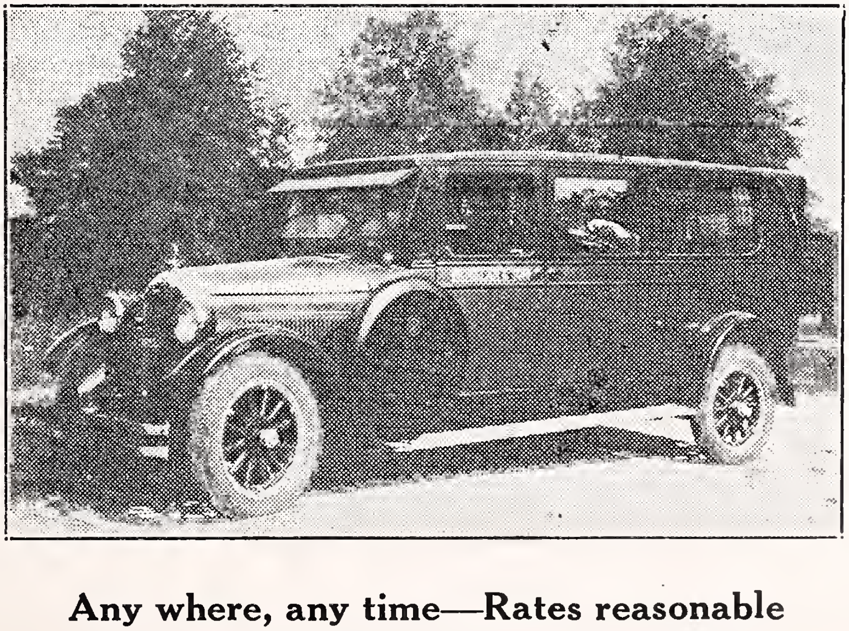

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dosage to that of very large ones.

The Sex Hormone of the Anterior Pituitary Gland should be instituted at least two days before the onset of the menstrual pain in One Hundred (100) rat units per injection and should be given into the muscle daily until the second or third day of the menstrual flow and then stopped after the cessation of menstruation. The follicular hormone should be given in dosages of from Fifty (50) to One Hundred (100) rat units each. This is best given by intramuscular injections on alteruate days for six to eight injections, to the period that corresponds to that of rupture of the ovarian follicle. There should be a rest period from this time until just before the time that the pain should develop and at this time the injections of the Anterior Pituitary Sex Hormone should again be repeated. Rest in all of these cases is of great benefit because these glands of internal secretion are not only controlled by different hormonal stimulations but also by the intrinsic nervous system. This treatment should be continued through several menstrual cycles with the possibility of trying to restore the Pituitary ovarian ratio.

Amenorrhea and Oligomenorrhea are in another group of disorders that are generally conceded to be due to a hypo function of the endocrine system rather than to pelvic disease. Varying periods of amenorrhea occur at puberty and at menopause, and condition is normal during pregnancy and the first part of the period of lactation.

Failure of menstruation may be due as we all know to psychic causes such as fright, fear of illicit pregnancy and that interesting phenomenon described as pseudo pregnancy.

In the cases of Amenorrhea and Oligomenorrhea that occur around puberty, clinical and experimental work have strongly pointed toward disturbance of the hormonal secretion of the anterior lobe of the pituitary gland. Several authorities have generally accepted this as one of the primary causes. Usually these disorders are accompanied with only a menstrual upset, but when the disorder is very marked signs of both posterior and anterior insufficiency may be brought into the clinical picture, in the latter the treatment is not so gratifying and must be continued over a longer perior of time; with not only the sex hormone of the anterior pituitary added but also the whole gland must be substituted, with the hypo function of the anterior pituitary there is an insufficient stimulation of the ovary thus causing the menstrual upset.

One of the many experimental demonstrations showing that the pituitary gland is a stimulator of the ovarian function which is the main factor of menstruation: Then by the injection of the Sex Hormone of the Anterior Pituitary gland into immature female rats, produces ovulation and corpus luteum formation.

Endocrine therapy has for some time been employed in the treatment of amenorrhea and Oligomenorrhea in the form of powdered glandular substance both of the pituitary and the ovary, and since there is nearly always some slight upset in the Thyroid gland, thyroid medication has been added to the treatment except in those cases with hyperthyroidism. But until recently the active sex hormone of the ovary and the anterior pituitary glands were unknown and naturally the treatment did not yield the satisfactory results as we expected.

Treatment should be instituted in these cases as soon as possible for the best results to be had. In amenorrhea where all pelvic and psychic effects have been ruled out, the anterior sex pituitary hormone should be given intramuscularly. One Hundred (100) rat unit dosage daily for eight or ten injections followed with the intramuscular injections of the follicular hormone in Fifty (50) or Seventy-five (75) rat units every other day for six or eight injections. The dosage will have to vary according to the patient. Administration of Thyroid substance has been found to be beneficial in most of these cases and is best given in small dosage through the whole of the treatment. Usually several of the above treatments suffice, but with cases of retarded sex development, a more prolonged treatment may be necessary.

In the treatment of Oligomenorrhea more rapid results can be expected. The above treatment should be instituted, with the hormone of the Anterior Pituitary gland being given at the time of scanty menstration and continued for a few days afterward, followed with the injections of the follicular hormone as above. Usually one or two treatments will suffice.

A clincial syndrome that has reacted to the active sex hormone therapy with gratifying results is that of natural menopause. This is the stage in the menstrual cycle that we find a marked hypofunction of the ovary and causing a general upset in the glands of internal secretion as well as the body itself. Some women go through this stage of life so gradually that they have no discomfort whatsoever, only the cessation of menstruation, but this is not the case in most women.

The vasomotor symptoms are type cases that we most often see and the symptoms that cause the greaest discomfort; such as hot flashes, chilly sensations, sweating, abnormal bleeding, and fainting.

The Follicular hormone of the ovary has been a great benefit to these cases and most of the time relieves some of the most distressing symptoms, and where there is abnormal bleeding of the functional type the anterior pituitary sex hormone usually is of great benefit.

The follicular hormone is given in daily injections of Fifty (50) to One Hundred (100) rat units and should be continued until the symptoms begin to subside. In the cases where there is menorrhea accompanied with the other symptoms the Anterior Pituitary Sex Hormone should be given at the time of the hemorrhage in large doses intramuscularly one to two hundred (100) to (200) rat units daily.

Medicine has made a very definite progress in outlining the fields of use of the several sexual hormones. The work is still in the embryonic stage and many gaps are to be filled. The active principles of other endocrines have found a high place in medicine, why should the sex hormones be laid aside?

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Acute Osteomyelitis

BY DR. JNO. A. CRAWFORD
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Much has been said and written of acute osteomyelitis. Every doctor here, no doubt, is familiar with the disease in every particular, but if in repeating a so frequent and grave subject, I may impress upon you again the seriousness of the disease when not recognized and treated early, I will indeed feel fully justified.

Acute osteomyelitis essentially is a childhood disease. It is chiefly an affection of the long bones of the body, although no bones are exempt from the disease. The infection usually begins in the cancellous portion of the long bone near the epiphysis. From this primary lesion, the infection soon extends through the thin layer of cortex at this area, beneath the periosteum and if left untreated, will rupture out into the soft parts, causing an abscess and swelling of these parts.

Acute osteomyelitis is usually secondarily to some infection elswhere in the body and is transmitted to the bone through the blood stream. The infecting organism is almost always the staphlococcus aureus, however, other organisms, such as Streptococcus, pneumococcus, typhoid bacilli, etc., may cause this disease. Such foci of infection as boils, impetigo, infected tonsils or infected teeth are imminent in the greater percentage of cases. Malnutrition, anemia, and uncleanliness certainly are attributing causes. Sprains and bruises also contribute their part to the picture.

The symptoms of osteomyelitis are quite definite. Almost invariably the patient thinks he is suffering as a result of some injury. You are immediately faced with the following symptoms. A child usually between the ages of two and sixteen suddenly is seized with an agonizing pain near a joint, accompanied usually by a rigor or chill, a sudden and rapid rise of temperature and pulse rate. Toxemia quickly develops and patient becomes very ill. There is slight swelling of the painful area and here also can be elicited a definite point of tenderness. A careful manipulation of the adjacent joint will cause little or no pain. The blood count shows an increase of lucocytes to 20,000 to 30,000 and a proportional increase in polys. X-ray examination is negative in the early stages. If treatment is not instituted in the first twenty-four to forty-eight hours, the pus will rupture through the cortex, separating the periosteum from the bone and possibly rupturing into the joint itself. If treatment be delayed again, the pus will rupture through the periosteum and then you have the usual signs of an abscess in the soft parts and a patient has lost what little chance he had of returning to his once physical fitness.

Much can be done to prevent the disease by the use of proper nourishment, sunshine and cleanliness and by immediate treatment of all superficial skin wounds.

The dominant factor in the treatment is the relief of tension beneath the periosteum and the cancellous bone. An incision should be made over the point of tenderness. Several holes should be drilled through the cortex to allow escape of exudate from the cancellous area. A bond drill or chisel should be used, just so however, little surgery should be done. Neglect of immediate treatment will cause protracted illness and deformities.

Blood transfusions are of great aid to the surgical treatment when the patient is anemic and toxic. Also glucose and saline solution may be used to an advantage. After free drainage has been instituted, the bone should be placed in an immovable splint or position to prevent fracture and deformity.

The patient if seen early or treatment given early, will in a majority of cases recover without further trouble. If seen late or diagnosis and treatment delayed, sequestration will surely follow and the patient will have a long-drawn-out recovery and possibly be left a helpless cripple for life.

Spinal Anaesthesia

BY DR. GEORGE EUBANKS
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To the doctor who has given spinal anaesthesia and the surgeon who has worked with it this paper may tell nothing new, but I hope to impress upon them and you the possibilities and limitations of this form of anaesthesia.

To say that any operation below the diaphragm can safely be done under spinal anaesthesia is going too far. The man who does not select his cases for spinal anaesthesia and who does not then give some study to their pre-operative and post-operative care is riding for a fall. I always think it best to steer clear of border line cases, for many times after one has gone over the field and spinal anaesthesia is recommended the patient objects to it, mostly from fear of pain or from its past reputation.

Spinal anaesthesia has had to overcome many obstacles. In the past it has been tried, abused and then abandoned as a dangerous and untrustworthy method. Weinstein and McHugh state that if it is dangerous it is because it is used carelessly, and if it is ineffective it is because the technique has not been perfected. In our work we have used only one technique (Labat) and one drug (Neocaine). This drug is marketed in colored glass ampoules, the color of the ampoule denoting the size of the dose, it is in crystal form which is to be dissolved in the spinal fluid at the time it is used. I have tried to master this technique in its most minute detail.

After the surgeon has made his diagnosis the patient is referred to me for an opinion as to the safest anaesthetic. Heart and lungs are re-checked, the blood pressure reading taken, and the spinal column examined for any deformity. The patient is then consulted as to his willingness to have the operation done under this anaesthesia. If the operation is below the diaphragm, the other conditions are right

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and we feel that the operation will not consume more than an hour's time, spinal anaesthesia is recommended. A few times when the operation has taken more than the expected time it has been necessary to supplement the spinal anaesthesia with gas during the last few minutes. The usual preoperative and postoperative care is carried out with this addition: If the operation is posted for nine in the morning at nine the night before three grs. of sodium amytal are given orally. This insures a quiet restful night. Two hours before time for the operation six grs. of sodium amytal are given in the same way and one hour before operation a hypodermic consisting of morphine sulphate gr. 1-6 and atropine sulphate gr. 1-150 is given. With this method the patient is asleep when he leaves his room thus eliminating for him the dreaded ride from the room to the table. He can be aroused and will co-operate with one and it is essential that one have a quiet, co-operative patient for it has been noted that where there is a frightened and struggling patient during the injection there will be a rise in blood pressure and a failure to get good anaesthesia or else there will be no anaesthesia at all. To some, this may seem a large amount of amytal but I have also found that we have a better anaesthesia with this pre-operative proceedure with general anaesthetics. It has been noted that where there is an unusual amount of pressure of the spinal fluid it is better to draw off the fluid until the pressure is about normal as otherwise a poor anaesthetic will result. If the spinal fluid returns bloody or tinged with blood one knows that the needle is not correctly in the canal and it should be withdrawn and inserted anew, if one is to get a good anaesthesia. Also with a high cerebro spinal pressure there will be a low regional anaesthesia.

It is not wise for the surgeon to give the spinal anaesthesia and then turn the patient over to a nurse while he goes about his work. The drug has been given, it cannot be withdrawn, if an emergency arises the surgeon and his assistant are where they cannot stop, there must be some one to meet the emergency and act quickly. I not only watch my patient but the process of the operation. When there is to be undue manipulation I use a little "vocal anaesthesia" and a few pieces of ice in the mouth. With the above preparation many patients sleep throughout the entire operation, some stay awake and if they are apprehensive or worried by the noises of the operating room pledgets of cotton are placed in their ears and an ice cold towel kept over the eyes.

Too much cannot be said as to the accuracy of the antisepsis and technique. I am just a bit cranky about my needles seeing personally before sterilization that they are the right size, I prefer a flexible needle of small caliber, a 20 or 22 guage, and that they have the right point with no ragged edges. A ragged point on a needle will tear out puncture permitting a seepage of spinal fluid which account for some of the post operative headaches. I request that all the material to be used for the anaesthetic be in a separate shallow basin so that it may be removed from the sterile table without coming in contact with the other instruments or dressings and with the least handling, this as an extra safeguard to the patient. With a fine hypodermic needle a wheal is made with the local anaesthetic solution over the intervertebral space selected. If there has been a fall in the blood pressure from the amytal, 1 cc of ephedrine is given with the local anaesthetic solution. From this point on the Labat technique is carried out in its entirety. I should mention that feet on a stool, his elbows on his knees and his head on his hands as this fecilitates the introduction of the spinal puncture needle. Immediately after the introduction of the neocaine the patient is laid on his back and the head of the table lowered about twenty degrees. The head is kept lowered during the entire operation, the patient being carried back to the room on a stretcher on which he head is lowered and the head of the bed is kept lowered for at least two hours afterward.

The physiology of spinal anaesthesia is that one has a blocking of the posterior roots of the cord with loss of tactile, muscular and temperature sense which is essential to a good anaesthesia. Along with this one has a blocking of the anterior roots which gives complete muscular relaxation. The blocking of the white rami reduces and weakens the heart action and produces a fall in the blood pressure that must be carefully watched.

The advantages of spinal anaesthesia are many. In no other way can so extensive an analgesia be produced with so small a dose of drugs. It can be used in most cases below the diaphragm and is indicated in patients with acute or chronic pulmonary, hepatic or kidney disease, and chronic valvular heart disease. However, it should not be used in marked hypo-tension nor extreme hyper-tension, in shock due to hemorrhage, cerebro-spinal pathology, infection of the lumbar sacral region nor advanced pathology of the spinal column. The patient may take fluids until a few hours before operation, the surgeon has a perfect field, the muscles are relaxed, often no retractor is needed, the intestines are collapsed with no need to use packs, there is little or no venous oozing or peripheral bleeding, eliminating sponging and trauma, these being great factors in the prevention of adhesions and intestinal obstruction. There is seldom post operative nausea and vomiting therefore fluids can be started much earlier after the operation this being an effective measure in combatting acidosis and dehydration.

It is the anaesthesia of choice in intestinal obstruction and in perforated wounds of the viscera one can disregard shock unless there is excessive hemorrhage. I see no reason for its use in fractures of the lower extremities below the hip joint for local there will serve one well.

H. W. Jones says that the best defense of spinal anaesthesia, if it needs any defense, is that we continue to use it. That it is a boon for the ordinary surgeon for it makes him at once a far more skillful operator on account of the quiet abdomen in which he works, that for fractures and other work on the extremities it is a Godsend. It makes for better surgery and for a smoother convalescence but it is not fool proof yet he thinks the day will come when it will entirely supersede all other types of anaesthetics. While I do not go that far I do believe with a careful selection of cases and careful attention to details that in spinal anaesthesia we have a valuable asset is the surgery of the future.

Typhoid Fever

A STUDY OF A GROUP OF CASES

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About the first of July, 1932, typhoid patients from some of the rural parishes began to come into the Charity Hospital. The Superintendent asked me to take charge of the male white cases and placed at my disposal unlimited laboratory and other facilities. I assigned one of my wards exclusively to this disease and during the next three months, forty-nine patients with a tentative diagnosis of typhoid fever were admitted to this service. All were given the benefit of a most thorough investigation and the results suggest some interesting possibilities. The final diagnoses were as follows:

Typhoid Fever	17
Paratyphoid B	4
Malaria	4
Influenza	4
Pneumonia	3
Typhus	2
Undulant Fever	1
Tularemia	1
Relapsing Fever	1
Nephritis	1
Undetermined	11

The eleven undiagnosed cases were mild, made prompt recoveries and while we could have made fair guesses, they presented no conclusive evidence justifying a definite diagnosis.

It was decided to adopt some more or less uniform plan of management just as has been done for malaria, syphilis and some other diseases. We therefore arranged a scheme that we called "Ward Suggestions." This was mimeographed and a set was attached to each patient's record to be used as instructions. It will be noted that these were "suggestions" and it was not intended that they should be arbitrarily followed in every case. Any deviations, however, in the plan of treatment of any particular case were entered in writing. These forms were as follows:

WARD SUGGESTIONS FOR THE TREATMENT OF TYPHOID FEVER

Absolute rest in bed.

An ice bag to the head if the temperature is over 102 degrees F.

A daily cleansing sponge bath.

Sponge baths for temperature over 103 degrees F.

Alcohol rubs and dusting powder to contact surfaces (only).

Careful attention to oral hygiene.

From ½ to 1 fluid ounce of liquid petrolatum each night.

½ fluid ounce of castor oil, if other laxative is needed.

Enemas and colon tube as indicated for disten-

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tion.

¼ grain codeine, if needed for pain.

No aspirin or other antipyretics. No morphine unless evidence of hemorrhage or perforation.

If evidence of hemorrhage or perforation, notify a house physician at once. Discontinue intake by mouth. Apply an ice bag to abdomen and administer morphine by hypodermic.

If a diarrhea develops that is not relieved by dietetic changes, try 30 grain doses of bismuth subgallate.

4 to 8 pints of liquids each 24 hours.

DIET: About 2000 to 3000 calories daily. 3 meals and 3 interval feedings. Select from the following list:

Tea or coffee with cream and milk sugar.

Fruit juices with milk sugar. (Avoid excess of orange juice.)

Strained soups or broths made with ½ milk and rice or barley.

Gelatin or jello with cream; boiled custard; soft boiled eggs.

Buttermilk, butter, cream cheese (with cream).

Soft cooked grits, mush, cream of wheat and Ralstons, with butter, or cream and sugar, or with meat juice.

Mashed potatoes, pureed carrots, beans or peas.

Toast (free from crust).

WARD SUGGESTIONS FOR SAMPLE DIET TYPHOID FEVER

A sample diet, with caloric values, is indicated in the following suggestions:

Breakfast:

1 soft boiled egg	75 calories	
2 heaping tablespoonfuls of soft cooked cereal	100 calories	
1 slice toast	75 calories	
¼ ounce of butter	50 calories	
1 cup coffee or tea (with cream and milk sugar)	100 calories	400

10:00 A. M.:

1 cup custard	200 calories	200

Lunch:

6 ounces cream soup (with barley)	150 calories	
1 slice toast	75 calories	
1 heaping tablespoonful of soft cooked cereal	50 calories	
¼ ounce butter	50 calories	
2 heaping tablespoonfuls mashed potatoes or carrots (with milk and butter)	100 calories	425

3:00 P. M.:

1 cup custard, or gelatine with cream and a toasted cracker	200 calories	200

Dinner:

Cream soup or broth (with barley or rice)	150 calories	
1 heaping tablespoonful of soft cooked cereal with meat juice or butter	50 calories	
1 slice toast	75 calories	
¼ ounce butter	50 calories	
Gelatin with cream	100 calories	425

9:30 P. M.:

Malted milk (with water)	75 calories	
Toast with butter	100 calories	175

To this is added the fruit juices sweetened with milk sugar that are taken throughout the 24 hours:

Fruit juices with milk sugar (Avoid excess of orange juice)	500 calories	
Total		2325

Since the yellow fever clean-up in New Orleans in 1905, yellow fever, malaria, and typhoid have been largely or entirely eliminated as endemic factors and although we often see both malaria and typhoid, these patients are usually persons who have come for diagnosis or treatment or those who have been spending some time away from the city. In my twenty-odd years of practice here, I do not think that I have ever observed a case of either of these two diseases that originated in what might be called the city proper. Practically all of the twenty-one cases of typhoid and paratyphoid included in this discussion came to us from quite a distance. Naturally the most severe cases had been sent in. They were also usually far advanced in the disease and had been subjected to considerable stress in coming here. This would tend to give us a correspondingly high mortality.

One patient had a perforation the day that they were grouped and before the treatment had been started. He died within forty-eight hours. One reached us in extremis after three days of massive hemorrhage. He died in a few days. One was in the early part of the fourth week of the disease, and autopsy showed, in addition to advanced typhoid, consolidation, probably representing an active tuberculosis. The other eighteen lived. Of these one had perforation and was promptly operated. Two had thrombophlebitis; several had moderate intestinal hemorrhages. There were some milder complications such as epistaxis and furunculosis, but the progress as a whole was excellent. Nutrition was well maintained, delirium was rare and any marked discomfort was the exception. In elaboration of this plan of treatment I shall call attention to the following:

No effort was made to give the Brand baths.

Alcohol rubs were not used except to the contact surfaces such as the back, elbows, etc. where they were employed for hardening the skin and lessening

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perspiration. If they do have this effect they would certainly be undesirable treatment for the rest of the skin as they would lesson the valuable function of that structure.

We did not hesitate to use a mild laxitave as we felt that the danger from promoting mild peristaltic action was less than the danger from distention by gas or fecal matter.

We used codeine for all sedative purposes as it answered well and has fewer unfavorable side effects.

No acetylsalicylic acid (aspirin) or other antipyretics were given. Acetylsalicylic acid seems to be particularly dangerous. I once saw a typhoid patient who was apparently progressing well, die in collapse within an hour after taking ten grains of this drug.

Definite arrangements were made to care for perforation. The one case having this complication after treatment had been started was on the operating table within an hour. The progress of his case was not materially influenced.

With the diet as here given no diarrhea of even moderate severity developed.

In one treatise on typhoid appearing in a well-known system of medicines, diets as high as 5600 calories are recommended. There is also a tendency to give almost any food that the patient will take. These patients are distinctly ill; their digestive ability is much reduced; their intestinal tract is grossly diseased; therefore. as it is so easy to give them sufficient nourishment and yet confine the intake to soft, easily digested foods, I see no reason for any dietary digression.

We had found by the past experience that orange juice was so palatable and easily available that there was a tendency for the nurse to give too much of this item with resulting abdominal distention, so moderation was urged.

Upon the request of some of our confreres we we tried two special treatments. Three patients were given methenamine (urotropin) intravenously for five days. No influence of their progress could be noted. Three patients were given emetine hydrochloride for the same period of time and with the same results.

It is needless to say that all contacts as far as they could be determined were immunized with typhoid vaccine.

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Diseases of the Thyroid Gland*

A DISCUSSION OF SOME PRACTICAL POINTS

BY DR. R. L. SANDERS,
Memphis, Tenn.

Volumes have been written and others may yet be written about diseases of the thyroid gland. Whatever else may have been said regarding abnormalities of the thyroid, this much we now know: that the gland is an organ essential to normal metabolic activity in animal life; that is has a definite secretion; and that iodine is an esential constituent of this secretion.

The etiology of goiter has furnished a battleground of study and disagreement through the years. Some investigators have claimed that the actuating agent is in driking-water; other that polluted water and food are causes; still others think that certain vegetables, like cabbages, contain a cyanide which depresses oxygen consumption and brings about the disease. More recently Collip has brought forward the theory that there is a thyrotropic hormone in the anterior lobe of the pituitary gland which has the property of stimulating thyroid hyperplasia. It is not the aim of this paper to discuss the various causes of goiter, however much I should like to dwell on each of these and to speculate as to other causes. We are aware that nodular goiters occur in some localities more frequently than in others, and the same is true of hyperplastic goiters. Eventually we may arrive at a definite conclusion as to the cause of goiter, but that day has not yet arrived. It is my purpose todav to discuss some of the practical aspects of thyroid gland disorders and I shall confine my remarks to (1) a simple classification, (2) the use of iodine, and (3) the prevention of heart lesions and cancers by the proper use of prophylactic surgery.

CLASSIFICATION

Recognizing the important role the thyroid gland plays in its normal state, how then shall we classify the gland which acts abnormally? The architecture of the normal gland is that of a rather uniform acinar arrangement with low cuboidal epithelium, a moderate amount of colloid and a small amount of stroma. Under changed physiological conditions, almost every degree of pathologic anatomy is observed.

When the gland is whipped into abnormal activity, it is quite natural to expect hypertrophy and hyperplasia of the cells. Therefore, we are not surprised to find an increase in the lymphatic drainage, an increase in the amount of stroma or framework, a change to tall columar epithelial cells lining the acini, and a lessened amount of colloid in the follicles. But, on the other hand, when the placid and passive state of a large colloid gland is seen, we expect to find the opposite picture: flattened epithelial cells, poor blood supply from pressure, thinned out stroma, and the acini over-filled or distended with colloid. In such cases we expect to find an inactive gland, and these are rarely ever toxic. Many times such patients are actually hypothyroid.

By accepting the classification of the American Association for the Study of Goiter, the whole subject is simplified. Glandular enlargement may be uniform or it may be irregular and, hence, we have the classification: (1) Diffuse goiter, which may be toxic or nontoxic; (2) The nodular goiter, which may be toxic or nontoxic.

The diffuse hypertrophy or so-called adolescent thyroids seen in many young individuals (especially girls near the time of puberty) should not be classified as true goiters. Such conditions should be looked upon as physiologic processes and should not be drawn into the realm of surgery. No treatment is required in most cases. A proper understanding of the condition and medical management will suffice. It is here that the school teacher, the school nurse and the family physician have a great responsibility. I have seen many young girls who have been frightened by incorrect advice offered them about their thyroid enlargement. The excited, worried mother usually begins the conversation by saying, "My daughter has been told that she has a goiter." In reality, the normal hypertrophy of an active gland was trying to adjust the young girl and help her through the period of puberty into womanhood. The removal of a portion of such a gland is entirely unnecessary and, in most instances, harmful. It is in these cases that the surgeon's responsibility is greatest, and he should be able to recognize it and advise with the family physician, steering the patient and her family into paths of safety. The use of a little iodine will cause the thyroid to mobilize colloid that is stored in the gland and will reduce the size and relieve the pressure in most cases.

THE USE OF IODINE

It has been shown that the iodine content of the thyroid gland is basically related to its structure. The normal gland contains the largest amount of iodine, the simple colloid the next largest and the hyperplastic or toxic (the so-called exophthalmic gland) has the least amount of iodine. So far as we now know, the chief function of the thyroid gland is to store and properly metabolize iodine for body use. The gland stores iodine out of all proportion to other tissues of the body, and the rapidity of this storage is in direct proportion to the degree of hyperplasia produced. On the other hand, if iodine is given, hyperplasia is prevented or an existing hyperplasia reverted back to a colloid state. Evidently the body demand for iodine content is great in toxic goiters and the hyperplastic gland is rapidly converting every bit of available iodine into thyroxin to supply this demand; hence, the low iodine content in cases of severe hyperplastic goiters.

Plummer has shown that large doses of Lugol's solution promptly produces a marked clinical improvement of the patient by lowering the metabolic rate, slowing the pulse rate, decreasing the nervousness and bringing about a remission of all the symptoms except exophthalmos.

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*Read before the North Mississippi Medical Society at Oxford, Mississippi on October 25, 1933.

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noted in treatment of disease have resulted following the administration of iodine to toxic goiter patients. In no sense should the use of iodine be considered a cure for toxic goiter, and it should only be used in preparation for operation on the gland. It is best administered in the form of Lugol's solution. Small amounts of iodine may produce the desired result, but it is probably advisable to give even more than the gland can completely utilize at a given time. For practical purposes, thirty drops daily is sufficient. In extreme cases, a larger amount may be used. There is a very prompt drop in pulse rate, metabolic rate and a corresponding increase in body weight with general improvement of the patient. It has been shown that while iodine is being taken there is brought about a parallel change in the chemical and histologic states of the gland proportionate to the clinical change in the patient. The iodine content increases, the hyperplasia decreases, more colloid is stored and involution of the gland is observed. The maximum clinical effect is seen somewhat in advance of the chemical and histologic changes. If patients are refractive to the treatment, it will often be found that they have had iodine treatment previously. It is evident, therefore, that the first effect of iodine treatment is the best, and to get the best result, the operation should be done as quickly as possible when patients have reached the maximum benefit. Prolonged iodine therapy is unwise. I wish to emphasize this point. I have seen a great number of people who have taken iodine over a long period of time, when in reality it should have been used for only a short period, during the time of preparation for the operation. In mild cases, one week is sufficient; but in cases when the patient does not respond properly, a longer period may be required.

The general clinical condition is the best criterion for operative intervention. Operation should never be done in a crisis or when the patient is approaching one. When improvement takes place and the patient is clinically better, it is usually safe to go ahead with the thyroidectomy. The proper use of iodine has lowered the mortality, lessened the number of stage operations and has made the control of hemorrhages much easier.

When the gland has completely involuted under iodine therapy, it is necessary to leave a larger amount of remnants, else there is danger of post-operative hypothyroidism or myxedema. The question frequently arises as to the post-operative use of iodine. There is much disagreement on this point. It is my belief and practice to use the drug during hospital stay but, when the patient is dismissed to return home, the iodine is discontinued. If there should be a mild recurrence, iodine may be used to advantage; but in cases where the recurrence is more severe, re-operation is necessary for a permanent cure. In spite of all that can be done, there is a certain number of recurrent toxic goiters and they constitute a very troublesome group to handle.

The use of iodine in the nodular goiter offers a fertile field for controversy. Plummer and his followers doubt its value, while Graham, Crile and others defend its benefits. Coller found that 46% of his patients with toxic adenomas failed to respond to iodine therapy, while only 11% of his diffuse toxic goiters did not respond. We use it in all toxic cases on the ground that it will do no harm, although it appears to do no good in a limited group of cases. It would seem, therefore, that the state of the thyroid glad determines the indication for iodine therapy. If hyperplasia exists, iodine should be used. If the gland is of the colloid type, the iodine is not necessary and should not be used, because it has been harmful in certain cases. About this point the Swiss people are especially positive. They see cases of iodine toxic goiter, the so-called Swiss Basedow. They are positive in their assertion that the hyperplasia was precipitated by the administration of iodine. I had the privilege of seeing a few such cases this summer during my visit to the Swiss clinics. Fearing a precipitation of hyperplasia, they do not use iodine in any case of nodular goiter. 95% of their goiters are of the nontoxic, nodular variety. It is the exception to see a true exophthalmic among the Swiss. Less than 5% of all of their goiters are toxic unless the toxicity is induced by the use of iodine. There is a wide difference between the goiters we see in this country and the goiter that is seen in Switzerland, there being, roughly, 50% of ours which show some type of toxicity.

Practically speaking, then, we may say that iodine therapy should be used when the metabolic rate is elevated above normal and clinical symptoms of intoxication exist. On the other hand, when there is no elevation of the metabolic rate and no evidence of intoxication, and the patient has a nodular goiter, the operation can be done without preliminary medication.

Before leaving the subject, I should like to say just a word about the prophylactic use of iodine in this country and abroad. Marine showed some time ago by his work among school children that goiter can be prevented by the use of a small amount of iodine. This plan has lately been rather widely adopted. I had an opportunity this summer to make a close-up study of similiar conditions in Switzerland. In 1920, 78% of their school children had goiter. The use of iodine was begun, and in 1932 only 6% of them had demonstrable goiters. Cretinism is being correspondingly reduced. It is now twelve years since the beginning of this plan and some of the surgeons are becoming aware of the reduction in the number of operations for goiter. It is believed that in another generation or two the goiter problem will largely be controlled through prophylaxis.

NODULAR GOITER—CARDIAC CONDITIONS—CARCINOMA

What advice should we give the patient who has a simple, nontoxic, nodular goiter? For cosmetic reasons and on account of tracheal and nerve pressure, many patients request removal of the goiter. This is as it should be and I believe we are perfectly justified in such a procedure. There are degrees of toxicity ranging from no clinical symptoms to extreme intoxication. Perhaps there is a state of latent thyrotoxicosis comparable to latent jaundice (when the icterus index is above normal and yet there is no visible staining of the skin). The metabolic rate may or may not reveal evidence of toxicity and, yet, many patients with nodular goiters complain of an indefinite feeling of ill health that is not accurately describable. After the removal of a nodular goiter from such a patient, frequently a marked change takes place and a feeling of well-being and improvement in health is noted, changes that could not be attributed to any other treatment than the removal of the apparently innocent goiter. Apropos of this point, I have in mind just now two patients who were benefitted out of all proportion to my expectations by the removal of apparently nontoxic, nodular goiters. One of them was a minister, who was partially disabled and not carrying on his work well; but since the removal of the gland he has been much improved and has taken on new life in his work. The same experience was repeated in a school teacher living in this vicinity. She came to me six months ago and only last week told me of her great improvement.

Cardiologists tell us that the toxic effect from an adenoma with hyperthyroidism is probably as dangerous to the heart muscles as any other type of toxemia. Therefore, as a prophylaxis against certain heart diseases, the adenomatous goiter should be removed.

And, last, we must consider the question of malignant degeneration in an existing nodular goiter. Cancer rarely, if ever, occurs in a diffuse toxic goiter. Graham thinks that 95% of all cancers of the thyroid are superimposed upon previously existing adenomas. The cancer potentiality, therefore, is one that must be considered. The condition is comparable to neoplasm of the breast. Most of us agree that all breast tumors should be excised to prevent the development of cancer and this is common practice. If we can get this analogy into our thinking and apply the same principle to the thyroid gland, probably to a lesser degree, it will be an easy matter to decide the question as to what should be done with a so-called simple nodular, non-toxic goiter. I do not wish to go on record as advising surgery in every case of goiter of any size, but I do believe that we, as a profession, have not been as diligent as we might have been in the recommendation of surgical removal of simple goiters, especially from a prophylactic standpoint.

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Atabrine and Plasmochin in the Treatment of Our Malarias

BY DR. A. M. WYNNE
Merigold, Miss.

After twenty-five years of practice in Bolivar county, experiencing all the difficulties we encounter in treating our malaria patients, both in the correct medication and in the difficulty of getting our patients to follow out that treatment after setting it forth, it was with a certain degree of hope that we had reached the end of our troubles that I read the different articles in the daily papers and medical journals of the clinical trials of Atabrine and Plasmochin in both tertian and estivo autumnal malaria.

I can recall to memory the year that I first came to the Mississippi Delta, in 1889. I remember well the old cinchona cup into which the patient poured hot water, let it stand for thirty minutes, and then was forced to drink it. Later, under advice of an old doctor, quinine was placed on the table in a saucer and every one at each meal took on the handle of a small spoon a generous quantity. Even later we had the capsule of today, but only enough quinine was taken to keep off the next chill; the amount was repeated on the 7th, 14th, 21st, and 28th days. Of course in the meantime we were filling up on Fowler's solution of arsenic until we could hardly see. Finally in 1916 we had Dr. Bass and his trained corps of assistants—both the field men and the microscopists. After a most thorough study of the subject, and after an exhaustive clinical trial of quinine in different sized dosage and length of time over which it was given, it was decided that twenty grains of quinine sulphate given for a period of thirty days or ten grains for sixty days was the best treatment. Then the question arose as to how a doctor could get the majority of his patients who were working out in the sun to take either amount for the correct length of time. Another question was that of getting the patient to buy the whole amount of quinine at one time. It was all right when his physician gave it to him, but when it came to the question of his buying a complete malaria treatment—in most cases for an entire family of from four to six persons—he simply bought enough quinine to last two or three weeks, and was soon back to see the doctor with same old story. Again—we had a certain amount, some fifteen to twenty who, after taking the required amount over the proper length of time, in about a week or ten days had relapses; the physician was then told that his patients had done as he had told them, but still had their malaria.

With some of our patients we tried the arsphenamines with such varying success that I have stopped using it. So, in April of this year, I decided to try the two first-mentioned drugs—Atabrine and Plasmochin—and with this aim in view I took up with the Director and the Technician of the Bolivar County Health Department the question of typing my malaria cases; this they readily consented to do. The question having arisen as to what type of patient should be treated, it was suggested that I pick those that had had malaria every year for the past several years. A complete and comprehensive study of all the material and literature in my possession was made, and routine treatment—other than the drugs themselves—was set out. This treatment consisted of proper purgation, the repetition of the days for purgation, a proper diet, the restriction of alcoholic drinks, and the absolute necessity of reporting to me once each week for five consecutive weeks, the reporting to begin on the day following the last day of treatment.

The question of the cost of the experiment was the next thing to be considered; this expense was in part cared for by the manufacturers of the drugs. The work was begun on May 23, 1933, and to date I have treated 85 cases with Atabrine, and with Atabrine and Plasmochin together. These 85 patients have completed the required length of time—five weeks—and eighty-one cases, or approximately 95 per cent, had a negative blood report from the laboratory on all tests. Of the remaining four cases, all of which were tertian malaria patients, one had positive blood the second week—the Atabrine was repeated and he has had negative blood since; two had a positive blood the fourth week—they were again given Atabrine and since completing the second treatment have been negative; the fourth relapse has had three treatments of the Atabrine and is now under observation.

Of the 85 completed treatments, 51 were tertian and 33 were estivo autumnal; one, as the technician telephoned me, had both tertian and estivo autumnal parasites. The following outlined treatment was carried out as closely as possible in all cases: a thick smear of the patient's blood was taken, he was given sufficient empirin to control temperature, and was also given a purgative—either aro. cascara or calomel; his smear of blood was then sent to the laboratory, and the results of the examination were reported that day. If tertian malaria was reported, he was given one tablet of Atabrine before each meal for five days; his diet was restricted only as to the amount of meat, which was reduced to one half; and all alcoholic drinks were prohibited the patient. If the patient's blood was positive, for estivo autumnal type, he was given Atabrine, one tablet before each meal, and one sixth grains Plasmochin three times daily, his diet being the same as for the tertian type.

The patient with the mixed infection was given Atabrine and Plasmochin.

From May 23rd to September 1st we had positive laboratory malaria to the number of 430. Divided as to type, these numbered 278 tertians, and 152 estivo autumnals. 85 were treated with Atabrine and Plasmochin as outlined; the rest were divided into groups and treated with quinine. In 6 cases 10 grains were administered intravenously three times weekly for four weeks; all stood the intravenous medication very nicely and with good results. 12 cases were given quinine dihydrochloride, 15½ grains, administered intramuscularly every other day for eight doses; of these cases, one had one abscess which cleared up without very much trouble, and there were no relapses in this series. The remaining 317 cases were divided into two groups, and the patients of one group, numbering 159, were placed upon 20 grains quinine sulphate daily for 30 days; the other group, numbering 158, were placed upon my own modification of Sinton's treatment or the quinine in solution method. In these two series there followed the usual complaint as to the effects of the quinine, and about ten per cent of both series stopped treatment before completed; however, of the completed treatments those given the quinine in solution obtained by far the better results. At the time this article was completed. Those patients given Atabrine and Plasmochin were in better physical condition and showed a larger percentage of negative bloods than the two large quinine groups.

Of the 85 cases treated with Atabrine and Atabrine and Plasmochin, the results have been given above. Of the 6 cases given intravenous quinine and the 12 cases treated intramuscularly there were no relapses and no bad results from the drugs as given. As for the 159 cases treated with 20 grains daily by mouth, we had 17 relapses during the course of treatment or while taking the quinine and 8 relapses within two weeks following completion of treatment. Of the cases treated with the quinine, epsom salts solution, we had 7 relapses during treatment and 6 relapses within two weeks following completion of the treatment.

Due to the straightened financial conditions of our patients most of them were unable to buy mosquito bars or to screen their houses; this fact, together with the fact that there was a large increase in mosquitoes, may account to some extent for the large numbers of relapses. However, if this be true, we should have had a proportionate number of relapses in our cases treated with Atabrine and Plasmochin and Atabrine; these relapses we did not have.

Now as to the bad effect on people taking Atabrine and Plasmochin—an effect we often hear mentioned—we did not find this to be true. We observed 15 patients whose skin became yellow, some more than others; as this had been explained to them before treatment was begun, no one was alarmed and the treatment was finished. We had two patients, one of whom complained on the second or third day of abdominal pains, and another had diarrhea; in neither of these cases was the drug stopped—the patient was requested to remain in bed with an icebag over the abdomen, and the drug was continued without any further harmful effect.

One patient, a prominent citizen, well nourished and without any other physical ailment that we knew of, had a chill. A blood examination showed positive tertian malaria. Following a calomel purge he was put on Atabrine with no other medication. Within two days following completion of treatment, he was suddenly taken ill with severe abdominal pains, nausea, and vomiting. I was out of the city at the time; my assistant saw him, made a tentative diagnosis of acute appendicitis, and advised hospitalization immediately. A consultant was called in, the diagnosis confirmed, and the patient sent to the hospital where he was seen by a competent surgeon who advised an immediate operation. The gentleman not wanting to go through with this, he was seen by another consultant who, going a little more thoroughly into the case and eliciting the fact that he had had malaria and had only two days before his attack finished a course of Atabrine, made a diagnosis of colitis due to the Atabrine. He was in the hospital two weeks and then returned to his home well, without losing his appendix. In this case I still have my doubts as to the Atabrine causing his trouble. His blood was negative for malaria while in the hospital and has remained negative up to the present time. Another patient, a white boy aged 17, was put on Atabrine and Plasmochin; on the fourth day of treatment he was brought into my office in the following condition: temperature normal, skin cold and clammy, lips blue, finger tips blue, heart rather rapid, pulse 100, color of skin very yellow. Treatment in his case was stopped and he was put to bed; no other medicine was given except a dose of cascara. His condition was better in twenty-four hours, and he then rapidly recovered his normal condition. We were unable to determine the cause as to why the drugs should so upset his balance. These two cases were the only ones that the drug affected enough to call for attention.

In presenting a few of the more interesting cases, I am reporting only those that the drug caused some inconvenience to the patient, or that the malaria affected the patient quite differently from the majority of those treated.

Cases Nos. 1 and 2 have been related above.

Case No. 3: C. H., white, male, age 28. Temperature 104; gave history of having had 3 chills on alternate days; medication, chill tonics. As blood showed tertian, he was given empirin to control fever, calomel purge, and without any further medication put on Atabrine—one tablet three times daily. He missed his next chill and, excepting a slight yellow tinge to the skin had no further trouble until the fourth week when, following the fourth negative report, he had a chill and his blood was positive tertian; the Atabrine was repeated and he had no further trouble, and his blood has been negative for five successive weeks.

Case No. 4: L. F., negro woman aged 38, had had fever for two weeks. At time seen temperature was 103½. Had been taking quinine but could not state definite amount. Blood was sent to the laboratory for malaria and typhoid. Report was positive estivo autumnal malaria. This woman was put on one tablet of Atabrine before each meal and 1-6 grains Plasmochin after meals. She was clear of fever on the fourth day and has had no trouble and a negative blood since; this case was reported for the reason that the patient cleared promptly on Atabrine and Plasmochin after her quinine had failed.

Case No. 5: W. L. M., white, female, age 45. Have treated her for malaria every spring and summer for past six years. Has very bad history as to other illnesses—hyperthyroidism over a period of 15 years, metabolic reading in January, 1933 was plus 35, amebic dysentery in 1932. Due to extreme nervousness has never been able to complete a course of quinine. Blood on May 28th, 1933 was positive estivo autumnal. Put on Atabrine and Plasmochin, she completed the treatment without any inconvenience, has had a negative blood since and says she feels better than she has for several years. On September 1st had a chill; blood report from laboratory was tertian malaria. Given purgative and placed on Atabrine, 3 tablets daily; missed her next chill but at the end of treatment had a positive tertian blood report. The Atabrine was repeated, and at this time she has had no further trouble and her blood has been negative.

Case No. 6: R. F., white. Has had malaria for several years. Was called to see her about 10 P. M. Found her with a case of malaria hematuria of 8 hours duration. Had had a chill the day before, temperature 103, urine scanty—about 3 ounces during past 12 hours. Gave her a good calomel purge, gave attention to her kidneys, and put her on Atabrine. Temperature was normal in twenty-four hours with hematuria cleared up. She was watched very closely for the reappearence of parasites in her blood. A smear had been made when first seen and found to be positive tertian; no parasites have appeared up to the present time.

Case No. 7: Miss K., white, aged 20. Have treated her for malaria for past two years. Called to see her one morning and found her very much nauseated, temperature 104, severe headache; complained of pain in all joints. Blood smear gave a positive estivo autumnal malaria. Put on sixty grains quinine for first twenty-four hours, and then twenty grains daily. At the end of fourteen days called to see her again; found her with temperature 103; blood again was positive estivo autumnal malaria. She was given a calomel purge and placed on Atabrine and Plasmochin. At the end of third day her temperature was normal, and on the sixth day her blood was negative for parasites; she has had a negative blood up to the present time.

Case No. 8: C. R. G., white, aged 46. Has been feeling run down all spring. Treated him for malaria last year. Blood report from laboratory was positive estivo autumnal malaria. Was placed upon Atabrine and Plasmochin; at the expiration of treatment, blood was negative and he felt quite improved. In about one week was back in the office reporting that he felt worse than he did before treatment; he was inclined to believe that the Atabrine and Plasmochin was the cause of his condition. His blood was again negative, but on examining his mouth and throat a smear was made from his teeth, tonsils, and gums; we found that he had a positive Vincent's infection of all three. After proper treatment these conditions cleared up, and he has regained his normal weight and health; also, his blood is at this time negative for malaria.

Case No. 9: H. S., colored, male aged 63. Called to see him in the middle of the night. The boy who came after me said the old man was passing blood through his kidneys and that he had had three chills. The patient had a typical malaria hematuria with temperature 104½. His blood showed positive tertian parasites. He was given a calomel purge, empirin for temperature, and the next day started on Atabrine. His temperature was normal on the third day, but the hematuria persisted for four days and then cleared up. This old man made an uneventful recovery, and his blood has been negative for malarial parasites to this time.

In addition to the above we had 15 cases whose skin turned a decided yellow; these cleared up in about three weeks, leaving no bad results. The total of eighty-five patients have been asked the question: "If you have malaria again, will you take the same treatment again?" All but one answered immediately, "Yes." Only one answered in the negative.

I have used this treatment on three members of my own family without the least sign of trouble; one of them, my son, has taken Atabrine three times.

As to the question of what I myself think of the two drugs, I unhesitatingly say that Atabrine in tertian malaria and Atabrine and Plasmochin in treating estivo autumnal malaria are far superior to quinine both as to shortening the attack and as to preventing relapses. But I think that you should type each and every one of your patients to whom you intend to give these drugs; after a careful examination of his heart and kidneys, and after learning the type of malaria he has—then and then only do I think you are justified in giving the drugs.

We are prescribing both drugs every day; however, the records of the work being done now will not be available for this article. We have treated a total of 131 without any bad rsults, excepting those mentioned above.

Abstract of Clinical Case*

BY DR. F. M. ACREE, M.D.,
Greenville, Miss.

Patient, W. R. G.; white male aged sixty-one; married; occupation, salesman.

Was first seen by me at my office November 25, 1932.

C. C. Burning on urination; bloody urine.

P. H. Usual childhood diseases; severe malaria as a youth, none for past twenty years. Ruptured when in High School; venereal disease at about the age of twenty. Has worn truss ever since he was ruptured that retains the hernia well. No operations, no serious accidents or injuries. Says that in 1926 he passed a kidney stone, again in 1928 and again in 1929. Patient states that he was in bed only a few days with each attack.

F. H. Married, but has not lived with wife for several years; has four children living and well.

P. I. Present attack began with a gradually increasing frequency for past ten days or two weeks, with a burning in neck of bladder, especially after urination and bleeding, which followed urination. He has not had to stop work; had no chills or fever, and no other symptoms except tiredness of legs was increased over usual amount.

P. E. White male, well developed and nourished; weight, 190 pounds; head and neck negative except bad teeth.

Lungs—No rales or dullness.

Heart regular, no murmurs.

Abdomen soft, no masses or tenderness; right inguinal hernia easily reducible and retained by truss; extremities negative; prostate enlarged and hard.

He refused hospitalization and was treated symptomatically at intervals until January 4th, when he came to the office with urinary retention. Not being able to get into the bladder through the urethra, the patient was referred to the hospital and a suprapubic opening was made into the bladder and a tube placed. On January 16th, his condition being satisfactory, a very large prostate was removed through a suprapubic opening, gas anesthesia being used. He stood the operation well, and made satisfactory progress, the temperature and pulse reaching normal on January 23rd, and continuing normal until February 15th, during which time the wound appeared to be healing normally.

On February 15th he had slight rise of temperature with daily remissions and gradually increasing height of temperature curve until February 18th, when he had a hard rigor and the temperature went to 102. Blood count on this date showed a total white count of 18,000 with 79 polys, 18 small lymphs and 3 large lymphs; no malaria found. The urinalysis was negative. Examination of the wound on this date failed to reveal any evidence of pus pockets anywhere.

By February 22nd the temperature had again reached normal. It stood at normal until March 3rd, when after a very severe chill at five P. M. on March 3rd until the date of his dismissal from the hospital, showed marked elevation on March 18th, March 30th and April 9th. He was given quinine every four hours, night and day, from March 3rd to March 21st, from March 21st until March 26th, he was given plasmochin compound three times a day, and quinine again every four hours, night and day, from March 31st until the date of his dismissal from the hospital on April 26th. He reported to the office for daily dressings of the suprapubic wound, which was still draining a small amount, and on May 3rd he again had another severe chill with high fever and a positive smear for malaria. This time he was given a course of atabrine, the usual fifteen dose treatment. On May 23rd he had another severe chill followed by high temperature and again had a positive smear for malaria. This time he was given atabrine combined with plasmochin, one tablet of atabrine and one-third grain of plasmochin, three times a day for five days. His next chill was on June 5th, at which time he again had a positive smear for malaria in spite of all the anti-malarial treatment he had had. This time I gave him sodium cacodylate by vein, fifteen grains every third day until the 5th of July, at which time he had another severe chill with positive malaria smear.

On the 7th of July neosalvarsan was started, and .3 grams were given at three day intervals from July 7th until July 31st, since which he has had no further chills, that is since July 5th. On July 31st he was feeling fine and had gained some ten pounds. I saw him last on the 25th of August, and he reported that he had had no further chills.

COMMENT

This case is reported merely because of the apparent inability to control the malarial paroxysms which appeared at about twenty-one day intervals in spite of enormous quantities of quinine, two courses of atabrine and plasmochin, and apparently controlled only after administration of rather large quanties of arsenic.

Compliments of
DR. JOHN P. HENRY
Suite 2005-6-7 Sterick Building
Memphis, Tenn.

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*Read at the regular staff meeting of the Kings Daughters Hospital, Greenville, Miss., Sept. 6, 1933.

Public Health News

In the search for the missing copies of the Mississippi State Board of Health reports, a letter was written to Dr. H. A. Gant who now lives in Columbia, Tennessee. Dr. Gant was President of the State Board of Health for several years following his election in 1900. His reply will be of interest to many members of the medical profession because of his early labors in and contributions to medicine in the South.

Columbia, Tennessee
July 26, 1933

Dr. Felix J. Underwood
Jackson, Mississippi

Dear Dr. Underwood:

Replying to your favor of 26inst. I regret to have to say that I have no copies of the reports of the State Board of Health of Mississippi for the years mentioned. The board was organized in 1877 and for many years had no funds and I do not remember seeing any publication of the board, but about the last years named 1894-1896 there should be some of the published reports somewhere. If the libraries of Dr. Wirt Johnston and Dr. J. F. Hunter, the first secretaries of the board could be traced it is possible copies might be found. The department of archives and history or the office of the secretary of state should have preserved copies. I wish I could supply the copies needed to complete the file. I would gladly furnish one or all of them for I have an abiding interest in the medical history of Mississippi and especially in the splendid scientific sanitary work of recent years in which you have done so much outstanding and progressive sanitation placing Mississippi in the first ranks of the states in preventive medicine.

Your mention of the year you took the examination for license when I was President of the board and also your speaking of my having had experience in yellow fever epidemics calls to mind many incidents and happy associations of my professional life in Mississippi. Of all the years, 1897, 1898, 1899 when I worked most strenuously, were the fullest and most satisfactory because I am satisfied that our board did some real scientific work and prevented the spread of the disease and checked the epidemics preventing the infection not only of many places in Mississippi but also of Memphis in 1898.

At the request of Drs. Ramsey and Sawyer of the Rockefeller foundation and Dr. E. L. Bishop commissioner of health of Tennessee I have written my experiences recollections and reminiscences of my work from 1878 the year I had yellow fever up to 1899. I showed the manuscript to Dr. W. A. Evans in May and he seemed to think it worth publication and I have been thinking of submitting it to you but am doubtful whether it is of sufficient consequence to tax you with a reading of the 150 pages double spaced type written pages.

Please excuse my poor typing. I am in my 82nd year and "still going strong"—but not very strong. I can not write with a pen and am very shaky but othererwise have good health.

With kindest regards and best wishes.

H. A. GANT.

The report of the Committee on the Cost of Medical Care states that the expenditure of the Medical Dollar is as follows:

Physicians in Private Practice	29.8c
Hospitals	23.4c
Medicines	18.2c
Cultists	3.4c
Nurses	5.5c
Public Health	3.3c
Dentists	12.2c
All Others	4.2c

According to this, thirty times as much is spent for curative measures as for disease prevention and health protection. Most communities in our State spend more each year to bury tuberculosis victims than would be necessary to spend in order to control the Great White Plague.

During the month of December, 1932, 23.8% of the 2,069 deaths in Mississippi occurred without medical attention. This means that 493 people in that one month died in our State without any medical attention whatsoever. The number does not include those who died suddenly and there was not time to call a doctor.

During the first four months of 1933, the figures for deaths without medical attention are as follows:

January	20.6%, or 360 of the 1748 people dying
February	18.6%, or 279 of the 1498 people dying
March	20.6%, or 366 of the 1780 people dying
April	16.9%, or 261 of the 1547 people dying

These figures represent deaths of people all ages —a large percentage of them were young and middle aged.

"Where to, Ed?"

"The doctor's. I don't like the looks of my wife."

"I'll go with you. I don't like the looks of mine, either."

You may know a doctor by his attitude toward his local society as you do a tree by its fruits.

Defer not till tomorrow to be wise,
Tomorrow's sun on thee may never rise.
—Congreve.

Ah, but a man's grasp should exceed his grasp,
Or what's a heaven for?

Leaders are ordinary persons with extraordinary determination.—Herbert Kaufman.

A physician is an angel when you employ him, but a devil when you must pay him.

"There is nothing more humiliating than to bark up the wrong tree a long time and find nothing there."

"With money you would not know yourself; without money nobody would know you."

"A penny weight of love is worth a pound of law."

Birthday Tribute to Mother Berry

While Reconstruction still was rife
And Mother Berry yet was young,
The father and the daughter flung
Defiance to despair and strife.

Aware that woman stands supreme
In holding high the torch of good,
They build a school where womanhood
Might catch their spirits' magic gleam.

They set their school upon a hill,
Their plant a farm house and a hall,
Their student body shy and small,
Equipment and endowment, nil.

Their teachers had no high degrees,
Their technique of the simpler type,
And yet their hearts and minds were ripe
With wisdom, better far than these.

They knew the nobler lore of life.
They loved and lived the Golden Rule.
The grace of God was in their school.
There was no hint of hate and strife.

And more and more the students came.
The plant, the staff, the program grew.
The dreamers' dreams were coming true,
With rarer fruitage, fairer fame.

The father did not live to know
The fine fruition of his prayers;
But still the dauntless daughter dares,
And labors on as long ago.

Her husband, brothers, sisters, too,
Have toiled beside her down the years,
Have shared her triumphs and her tears,
Receiving tribute, richly due.

A grandson of her gallant sire,
With erudition, wisely guides
The ship of learning through the tides,
With her to counsel and inspire.

Though twilight softly deepens down,
The years have left her young and strong.
God grant that she may linger long.
She wears with grace her rich renown.

With faith, she follows still the gleam
That lent her light in youthful years.
Her smiling spirit feels no fears.
Each day, she dreams a nobler dream.

—David E. Guyton,
Blue Mountain, Miss.

A merry heart doeth good like a medicine.—Old Testament.

"The work we love to do physics pain."—Shakespeare.

He who allows himself to be insulted deserves to be so.—Corneille.

We are taking the liberty to use two poems in this issue of The Mississippi Doctor written by Prof. David E. Guyton, one on Armistice which is so appropriate at this time, the other so deserving of one who has invested so much in character building. In another issue we will give you a reply to "The House by the Side of the Road."

Now is the time to pay your state medical dues. You can not afford to neglect this. It will not pay you to do so. Invest out of the hard times. Make this investment first.

The Mississippi Doctor is the champion of the small hosptal. We would like for each one to carry a card as a matter of information and to show their loyalty.

You will find in this issue of The Mississippi Doctor a fine bunch of papers. You will read each one with interest and with profit.

Medical schools should begin to teach the students how to teach preventive medicine and preventive surgery.

In our next issue we hope to have our news departments from Ole Miss and the University of Tennessee back on the job.

We want you and your neighbor to subscribe for The Mississippi Doctor.

It is the man who can keep on keeping on who counts in the medical profession.

Only one dollar for one of the best medical journals in the country, one dollar for one year.

Give mental and physical strength and more will be given to you.

On to Tupelo to the December meeting of the North East Mississippi Medical Society.

Talk not of wasted service, service never was wasted.

No one thing is common or of little importance in the practice of medicine.

All mankind loves a lover.—Emerson.

"Hard luck is a polite name for the sleeping sickness."

Luck is the thing that happens when preparation meets opportunity."

A colored man said he was luckiest with the potatoes he hoed the most.

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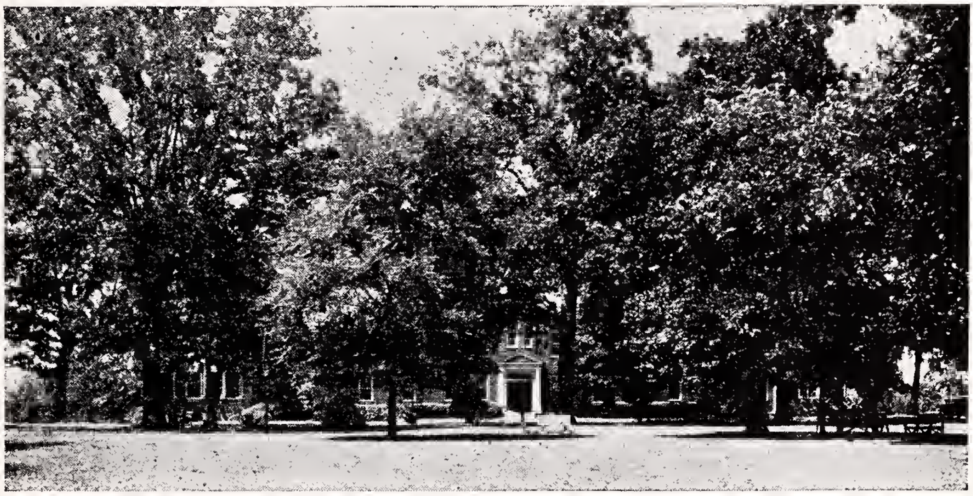

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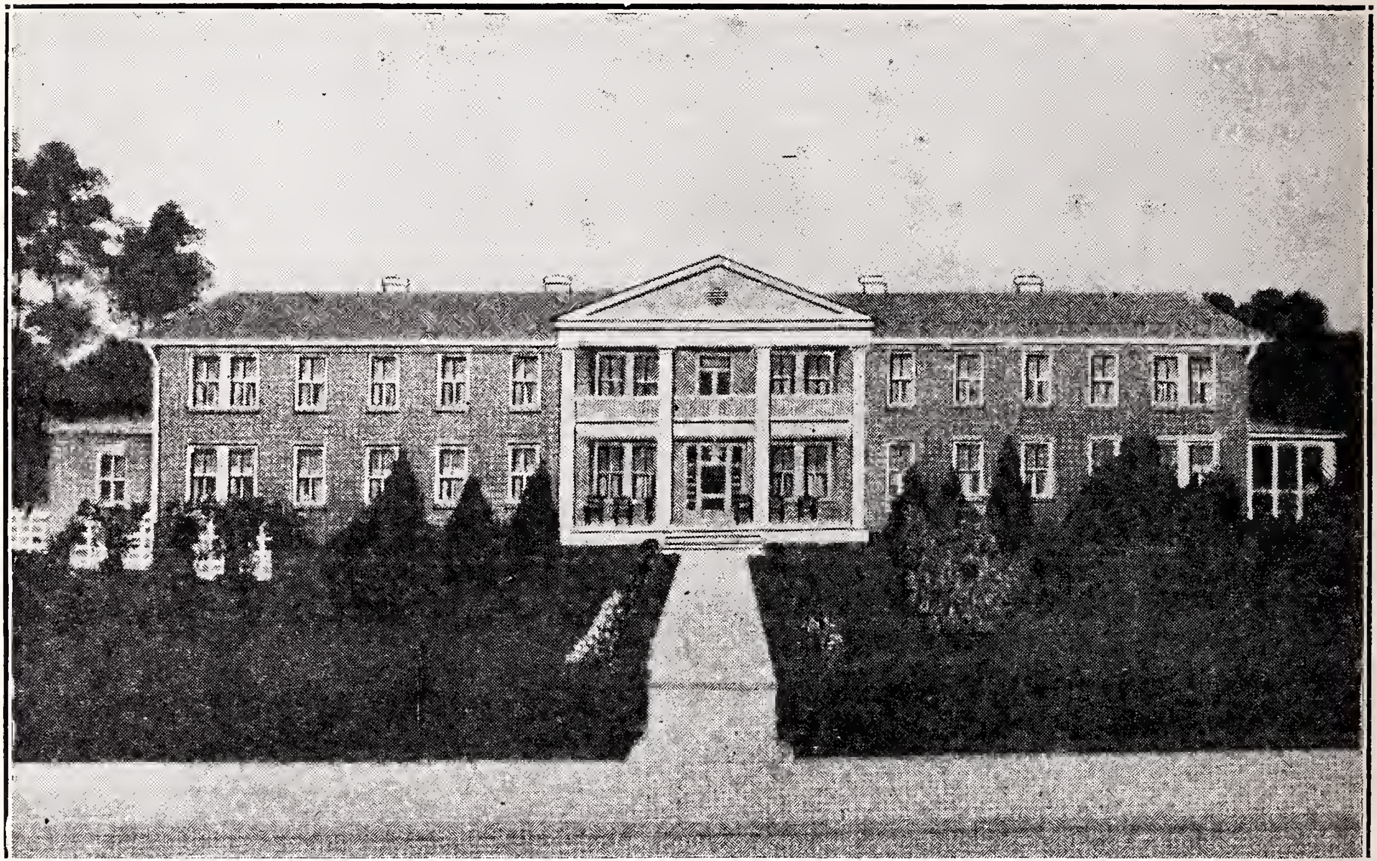

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THE MISSISSIPPI DOCTOR

VOL. 11 BOONEVILLE, MISSISSIPPI, DECEMBER, 1933 NO. 7

"Therefore all things whatsoever ye would that men should do to you, do ye even so to them: for this is the law and the prophets." Matthew 7-12.

THE N.Y. ACADEMY
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And in despair I bowed my head;
"There is no peace on earth," I said,
    "For hate is strong
    And mocks the song
With peace on earth, good will to men!"

Then pealed the bells more loud and deep:
"God is not dead, nor doth he sleep!
    The Wrong shall fail,
    The Right prevail,
With peace on earth, good will to men!"

—Longfellow.

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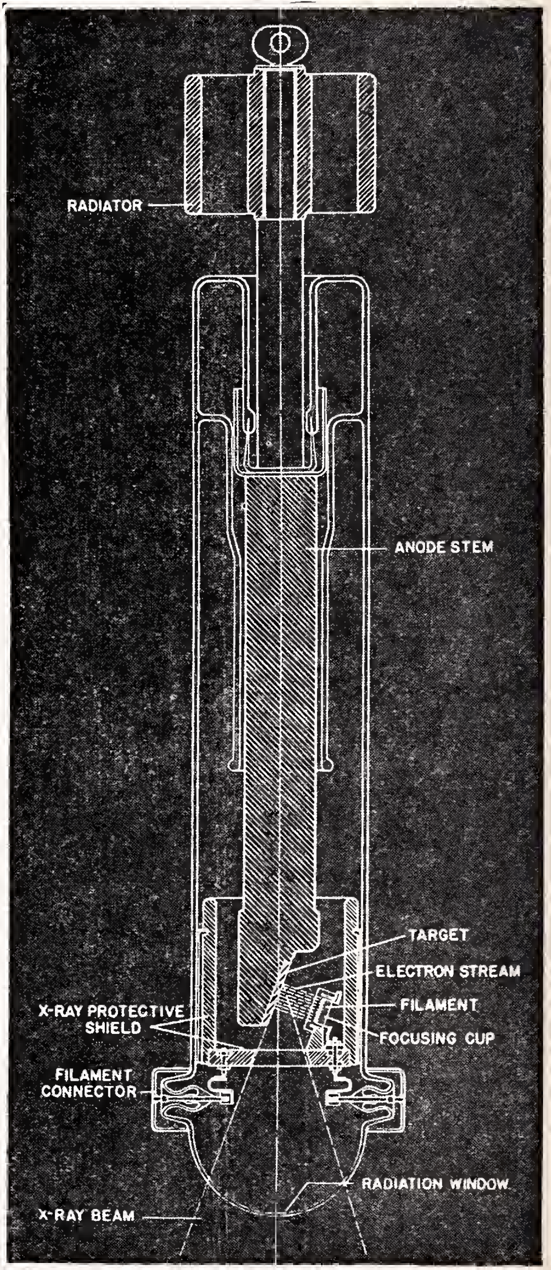

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THE MISSISSIPPI DOCTOR

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—AND—

NORTH MISSISSIPPI MEDICAL SOCIETY

—AND—

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
MRS. W. H. ANDERSON, Assistant Editor

Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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You may think differently, but you cannot afford to neglect your medical dues. If you are in the middle of a mud hole it is easier for you to go forward than to try to back out. Try to turn the Mississippi River into the Great Lakes before you try to stop the progress of the world. We must carry on, we must go forward. We cannot do it without organization. We must swap ideas. We must work on our problems together. We must have our medical societies. We should give some of our time to organized medicine. We must have dues and pay them if we are to carry on efficiently. It has been hard to pay dues for the last few years. But it has been more expensive to not pay them. The man who does not pay his medical dues and attend his medical society just cannot, will not, and does not grow and develop and serve as he might. He will shrivel up and begin to die just like a tree when the tap root is cut. He does not have the inner courage. It is just like a man forsaking his mother, his inner strength is gone. He cannot respect himself. We have the best local society in Dixie Land. Let us make it a hundred per cent paid up membership. The secretary does a lot of work for you gratis. Show your appreciation by paying your dues early.

Make your plans now to attend the Mid-South Post Graduate Medical Assembly at the Peabody Hotel, Memphis, Tennessee, February 13-17. It epitomizes the progress in medicine and surgery in four days. You can not afford to miss it. Your Clientele can not afford for you to miss it.

We have a splendid program for the North East Mississippi Thirteen County Medical Society. Tupelo is the place. Tuesday, Dec. 19th is the time. You should not miss it. We always have a good crowd at Tupelo. It is a good town. The eyes of the United States are upon her now. It will be the dispensing center for rural electricity. This town has the cooperative spirit. Its optimistic eye is looking to the future. It will do you good to spend an afternoon and evening in this progressive city.

The "indignant poor" has been a heavy burden on the medical profession for the last three years. The RFC is at last loosening up a bit. It was not at all fair to pay a full price for medicine and not get one cent for medical service.

Plans are under way for the special Mid-South edition of The Mississippi Doctor in January. The plan is to have a forty page journal and to issue five thousand copies. Send us the news.

In our medical economics the fortunate healthy must help to bear the burdens of the unfortunate sick. The community hospital with some form of insurance is the answer.

The masses must have more light in medical knowledge. The country weekly newspaper is the best medium through which to carry this.

Financial Statement

NORTHEAST MISSISSIPPI 13 COUNTY MEDICAL SOCIETY AS OF NOV. 25th, 1933

Balance in bank as of Dec. 7, 1932	$ 55.06
Received from 1933 memberships, 115 members	690.00
Special dividend from defunct Commercial Bank and Trust Company $275.43 was on deposit in this bank, saving's account when it closed, December, 1930	5.33
Total receipts 1933	$750.39

EXPENDITURES

T. M. Dye State Secretary, 115 members	$460.00
Misssisippi Doctor 116 subscriptions. This includes subscription for Secretary. There are no dues paid by County Secretaries to the State Association. This explains the difference between 115 paid for members in the State society and 116 subscriptions to the Mississippi Doctor	116.00
Aberdeen Examiner printing programs and stationery	75.40
Stenographic work	16.95
Telephone and Telegraph, postage and envelopes with postage on same	30.95
	$709.30
Balance in Bank Nov. 25, 1933	$ 41.09

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The Acute Surgical Abdomen*

BY ISIDORE COHN, M.D., F.A.C.S.
Professor of Surgery, Graduate School of Medicine
Tulane University.
New Orleans, La.

The subject assigned for this discussion may be a calendar. No calendar would be complete without twelve months, in a loke manner it would be hard to conceive of a medical meeting program without a discussion of the acute abdomen.

In spite of the many individual studies which have been made, errors in diagnosis persist and the death rate continues too high. Why should this be? Probably one reason is that given by Hendon "The only hand that paints a perfect picture of pathology is the hand of death, and the only critic that applauds the pathological art is the grave."

One reason why so many are lost is that some wait for the perfect picture. Some depend too largely on the blood count. It cannot be emphasized too much that delay may mean death and that the complete clinical picture is not necessary.

Proper interpretation of signs and symptoms will lead to better results.

One way to reduce mortality is to make an early accurate diagnosis, and to operate at once. A compromise on delay, because of family prejudice to operations, may mean your reputation and the patient's death.

All abdominal emergencies call for experience, knowledge of the literature and prompt action.

The urgency of the condition is not always apparent to the family and the patient. Having honestly deserved the confidence of the family act on your convictions and trust that your service will benefit the patient.

The acute surgical abdomen will in this presentation be discussed under several headings:

1. The acute abdomen which results from spontaneous intra-abdominal causes, such as acute appendicitis, ruptured gastric and duodenal ulcers, acute intestinal obstruction and gall bladder disease.
2. The acute surgical abdomen which results from trauma.
3. The acute surgical abdomen which arises post-operatively from hemorrhage and obstruction.

In order to discuss the subject intelligently the first consideration must be when does the abdomen become an acute surgical abdomen, and where is the trouble located. Often we find a medical student dejected because he has been given a poor grade because of failure to adequately differentiate upper abdominal diseases in a written test. Let us not expect too much of our students. In reality, we may find our own failure more costly than an examination grade.

The interpretation of the history and the signs and symptoms is of the utmost importance. Diagnosis should not be attempted by intuitive snap-shot methods.

Abdominal pain is, as a rule, the guiding manifestation. The location, duration and severity of the pain helps to locate the disease. The subsidence of pain is not an indication of improvement, it may mean gangrene.

---

*Address delivered at the Oklahoma City Clinical Conference October 31, 1933.

Location of the pain is dependent on a segmental distribution of sensory fibers to the surface. The offending organ is not necessarily immediately under the skin area of pain.

The duration of the pain is often dependent on persistent stretching of a hollow tube such as the ureter, urethra or biliary ducts.

The intensity of the pain is probably greater in perforations and distention of hollow tubes than from any other cause. The muscle response, or defense reaction, is greater in these conditions than in most other acute abdominal disorders.

Shock is not usually present when the patient with a perforation presents himself for examination. The acutal period during which shock is present is very short.

Localized muscle spasm, or the natural defense mechanism, is of value in locating an intra-abdominal disease. The attitude of the patient gives some idea of the location. Flexion of the thigh suggests irritation along the ilio psoas (retroperitoneal infections, renal calculi) just as limitation of expansion of one side of the chest suggests subphrenic irritation or infection.

The attitude of the patient, whether he has his thighs flexed or extended, whether he is quiet or restless, is an aid in diagnosis which requires the surgeon to be a keen observer.

The X-ray, in perforation of a hollow viscus, at times gives a great deal of information. Pneumoperitoneum when present is diagnostic, when not present is not to be accepted as contradictory to clinical findings.

The age of the patient is helpful in arriving at the diagnosis. In the very young acute abdominal pain with vomiting is often due to intussesception. A rectal examination promptly done will detect a boggy mass in the right lower quadrant.

Perforating gastric ulcers rarely occur under 15 years of age.

Appendicitis may occur at any age. The fact has lead to undue haste to remove an appendix by individuals who would not undertake the management of perforation, gall bladder disease, pancreatitis, or intestinal obstruction.

It is unfortunate that the expression "just an appendix," has come to mean some thing so simple. The present mortality rate is too high to justify the continuance of the idea of simplicity.

The criteria on which abdominal diagnoses are made—pain, muscle spasm, nausea and vomiting, peristalsis or the lack of it, and constitutional reaction in the form of fever and change in the blood picture, are found to appear in a great variety of combinations, and it is these variations which make abdominal diagnosis difficult.

Each manifestation has its own signfiicance.

Vomiting, which so often accompanies acute abdominal conditions, may lead one far afield. I recall a patient who because of persistent vomiting was thought to have an appendix. The appendix was removed by a surgeon. Several months later, when he had evidence of increased intra-cranial pressure I saw him. He had a cerebellar tumor.

Vomiting per se may have no definite localizing power since acute gastro intestinal disturbances, irritation of nerves in the mesentery and peritoneum,

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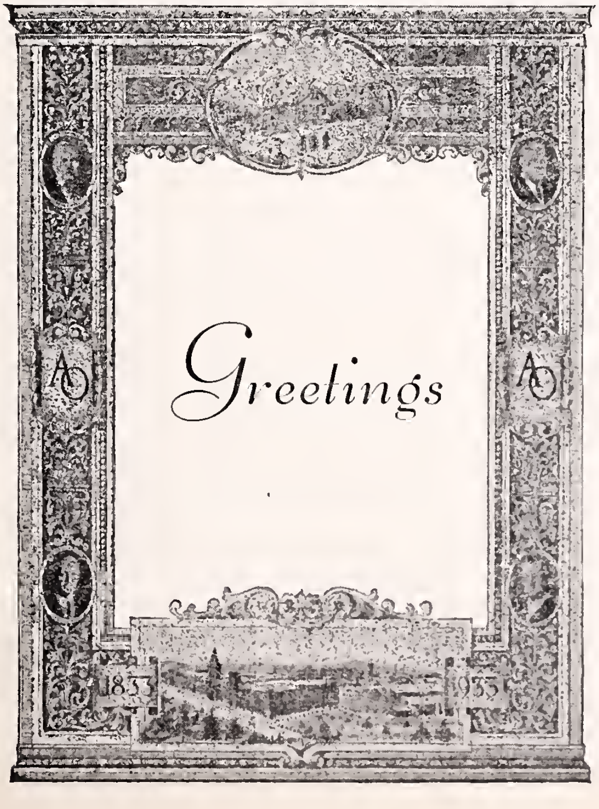

THIS Holiday Season brings to a close the celebration of our One Hundredth Anniversary and so at this important milestone we pause to acknowledge the many inspiring messages of friendship and good will that have reached us in this Centennial Year.

In a deep and abiding sense of gratitude we express our warmest wishes for your continued prosperity and we repeat our pledge to meet the ever-higher standards and requirements of the optical profession.

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diagnosis of appendicitis should be made? Pain, nausea, vomiting, anorexia, localized tenderness, rigidity, febrile reaction, cutaneous hyperesthesia, constipation and leucocytosis make up the accepted picture.

At the outset of this part of the discussion let us affirm as a fact that the complete picture is not often found.

We often read histories which indicate that they may have been written from memory rather than of bedside. In other instances it is difficult to believe that so serious an intra-abdominal condition could have been associated with so few symptoms.

The pain is variable in intensity, duration and location.

While it is true that the pain usually begins in the epigastrium or umbilical region, it may begin as a diffuse pain, later localizing in the lower right quadrant. The pain may not be intense at any time, and the progress of the disease may be so rapid that the relief of symptoms gives the patient a false sense of security. Every experienced surgeon will recall patients who have presented themselves in their office on whom it was necessary to do an immediate operation which revealed a ruptured or gangrenous appendix. The disappearance of pain may be indicative of gangrene or perforation.

While nausea and vomiting are common they are not always present.

Anorexia, so often stressed, is by no means a constant finding.

Localized muscle spasm, the so-called defensive attitude, is the most valuable single manifestation. In order to obtain the maximum information from palpation of the abdomen the examination must be conducted gently, otherwise the fear of increased pain will cause the patient to voluntarily contract the abdominal muscles. As a part of all abdominal examinations the effect of relaxing the ilio-psoas muscles (by flexing the thighs) should be sought. The effect of distension of the cecum by pressure on the left side of the abdomen often aids in diagnosis.

It is necessary to conduct a campaign of education to eliminate the popular idea that the patient must have fever. When first seen there may not be elevation above normal. If one waits long enough, he will be gratified to find that the febrile reaction will occur. A marked initial rise of temperature should be looked upon with suspicion, particularly in children.

The leucocyte and differential count, about which so much has been written, is of value as corroborative evidence. If the clinical picture indicates an acute appendicitis the surgeon must not be deterred from operating by the absence of a leucocytosis. If on the other hand he is in doubt a marked leucocytic reaction may guide him to a correct diagnosis.

Do not wait for a typical picture. The history may mislead you, particularly if diarrhea is associated with abdominal pain. Relief from pain may mislead both the patient and the surgeon. Be on the alert for gangrene under these conditions.

It is easy to philosophise about case histories which are submitted for analysis, but let us remember that prompt action, when the clinical picture seems to indicate surgical interference, will prevent catastrophies.

Difficulties in diagnosis are increased when the obstruction within involuntary muscle tubes, such as the gall bladder, renal or genital tracts, as well as the effects of increased intracranial pressure cause this symptom.

One cannot depend on the febrile reaction as diagnostic evidece of acute abdominal surgical conditions. Appendicitis may not in the early stages be associated with a febrile reaction. Perforations are not associated with febrile reactions in the beginning. The same may be said of many other acute abdominal conditions.

Too much stress is laid on bowel movement. To Cope belongs the credit for popularizing the idea that diarrhea may well be associated with acute surgical abdominal conditions. It is just as important to avoid the attitude that diarrhea negatives an acute surgical abdomen as it is to accept the idea that all painful abdomens are indicative of appendicitis. A single such illustrative case will suffice to prove my point:-

The patient, a graduate nurse, had been ill for three days prior to coming under observation. She attribututed her abdominal pain and diarrhea to a dietary indiscretion. When first seen she had been having frequent stools which contained no blood or mucus. There were colicky pains associated with the bowel movements. The pain radiated around the umbilicus and the epigastrium.

On examination we found the patient to have a temperature of 100, pulse 108. The abdomen was symmetrical, no hyperesthesia, and no localized superficial tenderness except in the left lower quadrant.

Blood count made, total white cells 10,000 with 93% neutrophils. Of these 37 were of the mature form and 56% young forms.

In view of the significant blood findings operation was advised. A defintely acutely diseased appendix was found. Following the operation the patient made an uneventful recovery.

The face in some of the acute abdominal crises is of great clinical value. In the ordinary acute appendicitis where the pain is not so severe vary little can be gained from the patient's expression. When there is a perforation of a hollow viscus, if the patient is seen early, the facial expression indicates great pain. This is also true where the patient has a renal colic.

Having made these general observations let us now turn our attention to some statements referable to specific conditions such as appendicitis, perforating gastric and duodenal ulcers, internal obstruction and the like.

When called upon to see a patient with an abdominal pain the surgeon must be mindful of certain facts. He must not act merely as a technician directed by a fellow practitioner to operate. The responsibility, after all, is his, therefore he must weigh of his evidence carefully. A surgeon must be no less a diagnostician than his fellows. His technical skill should be utilized for the benefit of the patient.

Appendicitis may occur at all periods of life, the extremes of youth and age, as well as in the active period of adult life. It is not to be forgotten that the child and the aged react differently from the healthy strong adult. It is especially important to rapidly investigate the reserve power in order that the minimum of surgery may be done.

What then are some of the criteria on which a patient has a tell-tale right rectus scar. Then the cause must be sought in another location than the common offender. Under these conditions the operator cannot say "your appendix must come out". When the tell-tale scar is not there some are inclined to feel that even if the appendix is not the cause of trouble at least that diagnosis offers an excuse for "opening up" to see.

Intermittent, crampy, colicky abdominal pain followed by nausea and vomiting, but unattended by rigidity or tenderness, suggests intestinal obstruction.

Wangenstein reminds us that in no other acute abdominal disorder of a serious nature are local physical findings absent. There are certain findings which quickly help to establish the diagnosis of obstruction. Gas visualized in the small intestines by the X-ray is of great value. No other single test is quite as valuable as the flat plate which shows the gaseous distention and various fluid levels. The picture changes rapidly. In a few hours step-ladder or herring bone appearance indicates the diagnosis.

With the above the findings of intestinal noises synchronous with the colicky pains establishes the diagnosis. Blood chemistry is of value in the later stages, but in the early period there is no disturbance of the chloride balance and the carbon dioxide combining power. This manifestation, according to Wangenstein and other observers, is found only after persistent vomiting. The higher the obstruction the more rapidly fatal will the outcome be.

I am not going to discuss the causes of death in obstruction. Of a few facts we are certain, if the obstruction is unrelieved the patient becomes rapidly toxic, dehydrated, an alkalosis develops and the patient dies.

Practically we are impressed with the need for prompt action. Immediate action, operation, relief of the obstruction, jejunostomy and intravenous infusions with large quantities of chlorides to maintain the normal balance as well as the blood volume, will reduce the mortality. That is what we most desire. Other considerations may be discussed at leisure in staff conferences.

Another type of acute abdominal pain which demands prompt action is the sudden sharp upper abdominal pain which causes the patient to stop where he is. This is the pain caused by perforation of a gastric or duodenal ulcer. The pain of perforation develops with a dramatic suddenness, and without warning. In some instances the pain associated with perforation is the first symptom that the patient has of an organic gastric disturbance. Possibly it would be better to say that the patient may have had indigestion which has been untreated or unrecognized as evidence of true organic disease. The clinical picture is not, as a rule, difficult to recognize. The age factor at times causes confusion. It is generally believed that perforations from ulcers occur prior to the fifth decade. I have seen perforating gastric ulcers in the 5th and 6th decades. The diagnosis has in many instances been overlooked because of the age of the patient.

The acute, sharp, severe upper abdominal pain may be associated with nausea and vomiting, but often the patient does not vomit, instead the stomach contents are expelled through the perforation into the abdomial cavity.

Shock, if it occurs, is usually recovered from by

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the time the patient is seen. The pulse is often full and bounding, and not very rapid.

The abdomen is rigid, particularly in the upper segments.

The flat plate and fluoroscopic examinations are of the greatest value. Fluoroscopic examination reveals at times an elevation of the diaphragm and a fixation of it. Flat plates often demonstrate pneumoperitoneum. This finding is diagnostic of perforation of a hollow viscus. It should not be expected in all cases. The absence of pneumoperitoneum does not negative a diagnosis of perforation.

Promptness of action is essential if success is to attend our efforts. The results in surgery for perforation depend on the accuracy of the diagnosis, the length of time elapsed, and the type of operation done. If immediate operation is done and time is not wasted at the table by unnecessary exposure and prolonged procedures the outlook is good. There are few procedures which require more expedition than the handling of perforating gastric ulcers.

The type of operation must depend largely on the condition of patient and the skill of the operating surgeon. In those cases where it is expedient to do nothing more than close the perforation, if this closure does not interfere with the lumen of the pylorus, this procedure may be all that is necessary and certainly will suffice as a life saving procedure. Other operations may be done at a later stage.

It is unnecessary to have other viscera exposed. Clamps need not be used as a rule. A cautery to destroy infiltrated edges followed by immediate suture is usually sufficient provided the closure of the perforation does not cause pyloric obstruction. When the pylorus is obstructed as the result of the operative procedure gastro-enterostomy is necessary, otherwise gastro-enterostomy performed at the initial operation unnecessarily prolongs the operation and serves no real purpose.

Drainage I believe to be unnecessary; I have seen fistulae and hernia follow where drainage has been introduced and I have not had cause to regret not draining.

GALL BLADDER SURGERY

This discussion will not involve the question of whether acute cholecystitis is a surgical disease, but I will endeavor to discuss the acute abdomen on which surgery is indicated where the gall bladder is the responsible factor.

Most American surgeons are opposed to routine operations in acute cholecystitis. There are certain acute gall bladder conditions such as empyema, perforation, gangrene and acute calculous cholecystitis with obstruction which demands immediate intervention. A minimum of surgery should be done in the acute stages, reserving major surgery for a later stage, thus giving an opportunity for the body to overcome the toxic effects of bile retention.

While the need for emergency surgery on the gall bladder is infrequent compared to the appendix there is nevertheless enough of it to make us mindful of several facts.

Gall bladder disease, either with or without stone, is a frequent urgent indication for surgery after the meridian of life and the results are none too good.

The diagnosis in these cases is not always easy. Most of the patients on whom I have had to operate have given a history of prolonged indigestion and preceding attacks of pain and nausea and vomiting. Jaundice is often associated with the pain. Even though painless progressive jaundice is ordinarily accepted as evidence of malignancy of the head of the pancreas or the papilla of vater this cannot be accepted entirely as we meet exceptions to the rule not infrequently.

For purpose of illustration a summary of Mrs. G.'s case is here introduced:

Mrs. A. G., age 56 years, presented the following history: progressive loss of weight, painless jaundice, palpable abdominal mass in the right hypochrondrium. Icterus index 105. Ven den Bergh showed a rapid biphasic reaction. There was a large quantity of bile in the urine and in the stool.

At operation we found the peritoneum deeply jaundiced. The gall bladder had thickened walls which were distended with stones. There was no evidence of malignancy of the pappilla of vater.

Fever is not constantly found in the acute abdomial surgical emergencies where the gall bladder is at fault. It is a rule rather than the exception.

Rigidity of the upper abdominal muscles, particularly on the right is marked.

The mortality of this type of case is high. Frequently unexpected deaths occur. Embolism, acute urinary suppression, "liver deaths," or hepatic insufficiency are the immediate factors causing some of these deaths.

Heyd states: "We were able to distinguish with variations three distinctive types of deaths following gall bladder surgery and for want of a better term we designated them as "liver deaths," apparently due to a change in the physiologic status of the liver-gall bladder unit."

The three types which he designated as "liver deaths" are depicted in the first place (Type I) by a patient not arousing from the anesthetic, progressive coma and gradual ascent of temperature, pulse, and respiration. This patient dies at the end of approximately 36 hours. (Type 2) "For the first few days after the operation the post-operative course is normal and satisfactory, and biliary discharge becomes less and less in amount and more watery in consistency. The patient becomes delirious, there is marked cerebral excitation and finally stupor and coma. There is no clinical evidence of intra-abdominal hemorrhage or infection."

He asked the question: "What has been the effect of the sudden decompensation?" And "Do the liver cells function for a short time post-operatively and then fail?"

In the third type, for 24 to 36 hours after operation there is apparently a normal post-operative course, then the pulse rate becomes markedly accelerated. The patient becomes prostrated with a fall in the blood pressure and a cessation of urinary secretion, and exhibits cold, clammy, moist extremities. The abdomen shows no clinical evidence of an unusual post-operative condition. A negative gastric lavage demonstrates no gastric dilatation. "That all who have had the experience of standing at the bed of a patient on whom one has operated that morning asks himself: 'What is the mechanism that is killing that patient?' A few hours later the patient is dead. The death certificate is made out: terminal pneumonia, heart failure or uremia, three insecure diagnoses, terminal events. Some chemical change has taken place, whether it has been the unfortunate misadventure of the time of operation or something else, the results have been sequential to the operative intervention."

Dr. Damon B. Pfeiffer, discussing Heyd's paper, stated: "It seems probable that the outcome is due to some derangement, not thoroughly understood, of certain essential hepatic functions. It is well to appreciate the dangers that lurk in operations on patients with a damaged liver."

Donald Guthrie, in a recent review of 434 gall bladder and duct operations, analyzed several so-called deaths from hepatic failure. The characteristics in some of these cases seem to be a sudden drop in blood pressure, rapid, shallow respiration, cold, clammy skin, collapse and cyanosis, hyperhyrexia, death.

The experience of others seems to strengthen my opinion, that death in these cases cannot be attributed directly to any one organ. It is a vicious circle produced by the association of degenerative changes in many organs which produce toxins which make continuance of life impossible.

Let us recall for the moment that practically all gall bladder disease is associated with infection, and that there is liver damage in a great proportion of the cases. Liver function tests are not yet sufficiently accurate to be of great benefit.

Until recently the "liver deaths" following gall bladder surgery have been a source of mystery. With the unfolding of knowledge with reference to the effects of (1) sudden change in the hydrostatics of biliary circulation precipitated by the removal of the gall bladder; (2) the effects of increased icterus index on secondary hemorrhage whether concealed or not; (3) and the effect of the increased icterus index on the clotting index and on the kidneys, we shall learn more and more to appreciate the value of earlier intervetion so that the calamities of the past may cease to be the source of high mortality rates in this type of case.

The conclusion seem justifiable, that surgery is too long delayed in many cases where the indigestion has been treated for many years. There are so many valuable tests available for diagnosis at present that it is almost inexcusable not to have a patient investigated surgically if the response to medical measures is not satisfactory after a short period.

No form of medical treatment can cure the condition if there exists changes in the walls of the gall bladder or if stones are present.

An acute persistent upper abdominal pain associated with nausea and vomiting, rigidity, fever, and a leucocytosis is presumptive evidence of an acute surgical abdomen, and if there is a story of long indigestion and repeated previous attacks the

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gall bladder is probably the culprit. Delay in advising surgery may increase the mortality. Operations on these patients must not be undertaken lightly. Surgery must be done early in the course of the disease if we expect to have fewer emergency operations on the ball bladder.

These statements can hardly be challenged if one will review the history and case records which come to surgery as emergencies.

A few brief records will be included to establish the point:

Mr. Lockens, age 24 years. Past history of prolonged indigestion, jaundice, preceded by repeated attacks of pain in the upper quadrant. The present illness which brought him under observation was a persistent pain of two days duration, nausea, vomiting, fever and abdominal rigidity.

At operation we found an acute gangrenous calculous cholecystitis.

Mrs. R, age. 56 years. Indigestion over a long period of time. Present illness began two days before coming under observation with an acute upper abdominal pain, nausea and vomiting. The abdomen was rigid, tender, particularly in the right hypochondrium.

At operation we found an acute calculous cholecystitis.

Many other cases could be cited, but I believe that the above are sufficient to prove the point.

THE ACUTE SURGICAL ABDOMEN WHICH RESULTS FROM TRAUMA

In 1927 there were 95,500 accidental deaths in the United States. 6 per cent of all deaths that occur are from violence. Traumatic surgery calls for immediate action. The procedure to be adopted requires an accurate knowledge of anatomy and the utilization of the most recently proven methods of diagnosis if the greatest good is to be accomplished.

In civil life the acute abdominal crises which result from trauma may involve either the hollow viscera, the solid organs or the great vessels.

Outward manifestations vary, and the type of wound or contusion of the abdominal wall may be confusing. In cases where the surgeon feels that there is only a contusion of the abdominal wall the burden of responsibility is very great as he must eliminate intra-abdominal hemorrhage or damage to the abdominal viscera before his conclusion is justified.

Any discussion of traumatic abdominal crises resolves itself into a discussion of hemorrhage and shock.

In cases where there has been an injury to the hollow viscera evidence of pneumoperitoneum is obtained by an X-ray examination.

Where an intra-abdominal hemorrhage is present there is usually rigidity, tenderness of the abdominal muscles, and shifting dulness when the patient is turned from side to side.

If the accident occurs several hours before the patient comes under observation rectal examination will show, if hemorrhage is present, a fulness in the cul de sac.

Hemorrhage is associated with a rapid response on the part of the reticulo endothelial system. There is a mounting leucocytosis. The red count in the early stages is practically normal. These phenomena are evidence of diminished blood volume and stimulation of the reticulo endothelial system.

It will take us too far afield to attempt to discuss the punctured and perforated wound of the abdomen. This subject does not require a stretch of the imagination for one to realize the importance of surgical intervention. It would be like bringing coal to New Castle for me to discuss gun-shot wounds of the abdomen before this audience.

The type of abdominal emergency due to trauma I particularly would like to discuss is that in which there has been an injury to one of the solid intra abdominal organs, such as the liver or spleen. While these accidents are relatively rare, they should be suspected when great violence has been done to the abdominal wall. Pain is not an early prominent manifestation. The patient does not show evidence of shock until hemorrhage has been severe. During the first few hours following the rupture of a solid organ patients have been known to walk about. They do not show, during the first few hours, evidence of a marked anemia, particularly from the blood picture.

Usually the physical findings, when a rupture has taken place, are a marked pallor, rapid respiration, low tension pulse, and if several hours have elapsed abdominal pain, rigidity of the abdominal muscles, dulness on percussion of the abdomen, and fullness in the posterior cul de sac on rectal examination.

The red count is not to be depended upon, for during the first few hours there may be no diminution in the red cell count. Hemorrhage is associated with an early leucocytosis.

The surgeon must not be satisfied with the statement that the patient has internal injuries, and then wait for a postmorten examination to reveal a fact which should have been obtained at an operation, and probably a life saved.

There are two indications when one suspects a rupture of a solid or intra abdominal organ, operation, as well as other measures intend to increase the blood volume and overcome the evidence of shock.

* * *

The last group of cases to be considered are those where the acute abdominal emergency arises postoperatively. These are particularly hemorrhage and obstruction.

Only a few words need be stated at this time about each. When a patient presents post-operatively a rapid low tension pulse, marked pallor, cold skin, sweating and restlessness it requires courage on the part of the surgeon to notify the family that something has happened and the abdomen must be reopened for the purpose of controlling the situation. If operation is not done promptly a fatality will result.

Hind sight is always better than foresight. One comment, however, seems justifiable, if fewer causes are operated by the clock and with less evidence of prize-ring tactics and more attention is paid to the control of every bleeding point, and if one will satisfy himself before the peritoneum is closed that the entire field is dry he will have fewer cases to reopen.

The post-operative obstruction, like obstructions which occur spontaneously, require prompt and courageous intervention.

If the few points which I have attempted to make in connection with the subject are of service, I will feel that the effort has been more than repaid.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION
Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

THE "PREVENTORIUM" ESSAY CONTEST

The State Medical Auxiliary have delegated to Mrs. W. C. Pool, First Vice President the job ob putting over the State Wide Contest, through our schools on "The Preventorium."

We feel very sure this will lead to a splendid avenue of Health Education as well as enlightening our people on the true facts pertaining to this institution. This has been a "pet" of the Medical Auxiliary since (and before) its opening and we bespeak splendid cooperation from doctors' wives over the entire state. From what we can learn at this date the material will be ready early in the new year for the schools.

ROSTER OF LOCAL AUXILIARIES IN MISSISSIPPI

The following Presidents and Secretaries of the organized Medical Auxiliaries in Mississippi may be of assistance to members or prospectve members in the various districts: Clark and Six County Auxiliary, President, Mrs. D. H. Rainey, Mattson; Secretary, Mrs. Julius Levy, Clarksdale; Delta Medical Society Auxiliary, President, Mrs. John A. Beale, Greenville; Secretary-treasurer, Mrs. J. C. Pegues, Greenville; North East Medical Society Auxiliary, President, Mrs. J. K. Avent, Grenada, Secretary-Treasurer, Mrs. J. S. Sharp, Grenada; Central Medical Society (Jackson), President, Mrs. Harvey S. Garrison, Jackson, Secreary, Mrs. H. C. Sheffield, Jackson; Simpson County, President, Mrs. E. L. Walker, Magee, Sec-Treasurer, Mrs. E. D. Kemp, Sanatarium; Issaquena, Sharkey, Warren County Medical Auxiliary, President, Mrs. Sidney Johnston, Vicksburg, Secretary, Mrs. I. C. Knox, Vicksburg; South Mississippi Medical Society Auxiliary, President, Mrs. C. C. Hightower, Hattiesburg; Homochitto Valley Medical Society Auxiliary, President, Mrs.C. E. Mullins, Bude, Sec.-Treasurer, Mrs. W. K. Stowers, Natchez.

Tri-County Medical Society Auxiliary, President, Mrs. F. E. Collins, Brookhaven, Sec.-Treasurer, Mrs. J. A. Markette, Brookhaven; Pike County Medical Society Auxiliary, President, Mrs. Thomas B. Abney, McComb, Sec.-Treasurer, Mrs. W. F. Cotton, McComb; Harrison Stone, Hancock County Medical Auxiliary, President, Mrs. George Melvin, Gulfport, President-elect, Mrs. Dan J. Williams, Gulfport, Secretary-Treasurer, Mrs. Elmer Gay, Long Beach; Biloxi Unit, President, Mrs. A. E. Trudeau, Sec.-Treasurer, Mrs. D. L. Hollis.

The Woman's Auxiliary to the Harrison, Stone, Hancock County Medical Society is planning a pleasant, and we hope, a profitable winter program. You know down here on the coast we are so ever lastingly busy with so many diversified projects that we only meet every two months, but we let other organizations do a lot of the work that finds its leaven in our Auxiliary, it reaches a heap more people and we don't care who gets credit, just so the good work goes on.

On October 26th we give a linen shower for our Kings Daughters Hospital at Gulfport and invite the public to do most of the contributing. But we will be on the job with open arms and a broad smile to receive the needed articles.

OUR PREVENTORIUM FUND

As, following the practice of three years, a letter to all Federated Women's Clubs in the State will be sent out in January asking for donations to the Preventorium. As set out before in this column so many things have been purchased which were necessary to the happiness and welfare of the children there that could not have been available had it not been for this fund. Checks are to be mailed to Mrs. Henry Boswell, Treasurer, Sanatarium, instead of Mrs. D. J. Williams, Chairman, as heretofore. In keeping with the "New Deal" we are expecting a nice increase over last year's fund.

TO HUSBANDS

Wont you please take the Mississippi Doctor home this month, hand it to the Mrs. and tell her if she is the all around wife you have reason to believe she is, that she will read it from "kiver to kiver." Indeed she will not do a thing but measure up, and when she finds a little about doctors' wives she will nag you each month until you repeat the dose.

LET'S "KEEP FIT' '

During these stress times, one of the most important things to keep before the laity is "Keep Fit." Our public is prone right now to "let down" mentally, which in turn will react physically and morally. We have borne up dandy during these long months and yes, years, but in spite of New Deal, NRA, CCC, etc., we of Mississippi are finding it harder each day to "Carry On." Our doctors, God bless them, have borne a heap of the brunt and our doctors' wives have been a shining example of how to manage on 'most nuthin', yet retaining her place in her local community life and encouraging others to "Keep Fit." We will come "Smilin' Thru."

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Mrs. Henry Boswell Honor Guest of Medical Auxiliary

The Woman's Auxiliary to the Harrison-Stone-Hancock County Medical Society held its regular meeting on Wednesday in the home of Mrs. D. J. Williams, with Mrs. Henry Boswell of Sanitorium, Miss., as honor guest. Mrs. W. A. Dearman, Mrs. Elmer Gay and Dr. Emma Gay served as hostesses with Mrs. Williams. The house was beautifully decorated with gorgeous roses and trailing ivy. The guests were invited for bridge in the morning and three tables of players shared the pleasant game which gave high score to Mrs. Jagoe, second high to Mrs. Culpepper and consolation to Mrs. Beckett. The other guests arrived for the lovely buffet luncheon which was served at one o'clock. Pink and white roses formed the centerpiece for the lace covered table where luncheon was served. A log fire in the huge fire place in the living room lured the guests by its pleasant warmth and the business meeting was held here. The election of officers was held. Mrs. Elmer Gay being chosen president-elect; Mrs. W. E. Manney, secretary and treasurer; Dr. Emma Gay, vice-president for Harrison county; Mrs. J. S. Laird, parliamentarian; Mrs. C. A. Sheely, historian; Mrs. Cummings McCall, publicity chairman. Mrs. D. J. Williams presided over the meeting and presented Mrs. Henry Boswell, who made a splendid talk about the Preventorium which was established at Sanitorium some years ago. The Medical Auxiliary has been particularly interested in this project, and Mrs. Boswell's talk was extremely enlightening. Those present for this delightful gathering included: Mrs. Henry Boswell of Sanitorium, Mrs. Clifton Culpepper of Honolulu, Mrs. C. Floyd Haviland of New York, Mrs. N. W. Lake, Mrs. A. L. Jagoe, Dr. Emma Gay, Mrs. A. R. Robinson, Mrs. B. J. Linder, Mrs. C. A. Sheely, Mrs. R. F. Wafer, Mrs. C. G. Beckett, Mrs. J. C. Hudgins, Mrs. W. A. Dearman, Mrs. J. S. Laird, Mrs. C. H. McCall, Mrs. W. E. Manney, Mrs. D. G. Rafferty, Mrs. C. H. Denser, Mrs. George M. Melvin, Mrs. Elmer Gay, Mrs. R. H. Foster, rs. Mary S. Murphy and Mrs. D. J. Williams.—"Guide" Dec. 8, 1933.

Mid-South Post Graduate Medical Assembly

The follow list of doctors are the ones who have accepted invitations to speak at the Mid-South Post Graduate Medical Assembly.

Dr. John A. Killian, Biochem. New York, N. Y.
Dr. E. P. Joslin, Diabetes, Boston, Mrss.
Dr. John C. Meakins, Int. Med., Montreal, Can.
Dr. Chas. Mazer, Gyn., speaks twice, Philadelphia, Pa.
Dr. E. D. Plass, Obst., Iowa City, Iowa.
Dr. Jos. Brennemann, Ped., Chicago, Ill.
Dr. Douglas Quick, Cancer, New York, N. Y.
Dr. John W. Martin, Indust. Surg. Malpractice, Baltimore, Md.
Dr. J. M. T. Finney, Surg., Baltimore, Md.
Dr. Frederick A. Coller, Surg., Ann Arbor, Mich.
Dr. Geo. P. Muller, Surg., Philadelphia, Pa.
Dr. Fred L. Adair, Obst., Chicago, Ill.
Dr. Alan Brown, Ped., Toronto, Can.
Dr. H. O. Mosenthal, Int. Med., speaks twice, New York, N. Y.
Dr. Geo. B. Hassin, Neurology, Chicago, Ill.
Dr. John Alexander, Chest Surg., Ann Arbor, Mich.
Dr. Albert C. Furstenberg, E. N. & T., Ann Arbor, Mich.
Dr. M. F. Campbell, Urology, New York, N. Y.

Monroe County Doctors Organize County Medical Society

Editor Mississippi Doctor
Booneville, Miss.

Dear Sir:

In accord with a request of our able state president and acting under the authority given by our councillor, the doctors of Monroe county met last night (Dec. 5th, 1933) and proceeded to organize a county medical society. The meeting had been discussed among all the doctors of the county until it was fully understood and approved by them all. Only three or four of them were not present. Dr. Acker was out of the county but he told me before leaving that he was heartily in favor of the purposes for which the step was proposed. The meeting was most harmonius and everything done was by unanimous consent or vote.

The set up for 1934 was as follows: President, Dr. I. P. Burdine; Vice president, Dr. H. M. Williams; Secretary, Dr. J. P. Ward; Delegate to next meeting state association, Dr. G. T. Tubb; Alternate delegate, Dr. C. E. Boyd; Dr. B. C. Tubb, Dr. A. I. Boozer and Dr. C. B. McCown were appointed by the chair to act in capacity of advisory committee for the membership. It was decided to hold monthly meetings, alternating between Aberdeen and Amory. These meetings to be at seven o'clock P. M. on each succeeding second Tuesday, the first meeting to be held in January at Aberdeen.

To cap the climax and to enhance the pleasure of the meeting, a telegram was read which announced the fact that Dr. C. E. Boyd had been awarded a fellowship entitling him to four months post graduate teaching at Tulane, course to begin January 3rd, 1934.

G. S. BRYAN.

Amory, Miss.
December 6, 1933.

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Endemic Typhus Fever (Brill's Disease)

A CASE REPORT

BY GEORGE E. RILEY, M.D., C.P.H.
Mississippi State Board of Health

In connection with the investigation of a reported outbreak of typhoid fever in the southern part of Rankin County, a consultation was requested by Dr. H., a local physician at Brandon. The reason for this request was because of the atypical nature of a suspected case of typhoid fever.

The patient was seen and examined in his home, which is well sanitated, screened, and clean modern brick house located in Brandon.

Information obtained from the records of Dr. H., from the patient, and from four subsequent examinations gives the following account of the case:

The patient, C. O., is a white male, age 21 years. He has never had typhoid fever, but in March, 1933, he received three doses of typhoid vaccine. Up to three weeks prior to onset, he had operated a grocery store in Fannin. A large part of this time he slept on a cot in the store because of two robberies. After leaving the store on July 5, he spent a week in Memphis, Tennessee, and Pope (Panola county), Mississippi, and returned to Brandon on July 12 to 15, where he worked in his father's grocery store until onset of illness on August 2, 1933. Both stores were heavily infested with rats. He did not know of an insect bite any time recently. Drinking water for several weeks came from a spring at Fannin. On August 2, he complained of chilly sensations, a severe frontal headache, and a dry hacking cough. Epistaxis occurred that afternoon. He felt that he had some fever but did not see a doctor or take his temperature until the afternoon of August 3 when he was prostrated and forced to bed with a temperature of 103.4. At 7:30 P. M., he had a chill. On August 4, his temperature rose to 104.2 and, at 8 P. M., he had another chill. The fever ranged from 103 to 105.3 during the first week. On the ninth day of the disease, it dropped to 101 but returned to 103 the next day. During the night of the fourteenth day, following a profuse sweat with extreme exhaustion, it dropped from 102 to normal and remained normal.

The rash was first noticed on the seventh day (August 8) when it appeared on the abdomen, chest, axilla, back, flanks, and upper part of the buttocks. It was more abundant on the lower part of the chest and was scarlet fever-like in appearance, being macules of 1-3mm in diameter, which disappeared on pressure. The rash continued for five days and completely disappeared on the eleventh day (August 13).

The face was flushed, the conjunctiva was markedly injected. The tongue was dry and coated and its edges red. The mouth was sore. The abdomen was flat and no pain could be elicited on deep pressure. The spleen could not be felt. The pulse rate was slow in ratio to the temperature and never exceeded 100.

Lethargy, insomnia, and restlessness were presented. On two occasions, morphine was given to induce sleep.

The laboratory findings were:

August 4—Blood: W. B. C., 7,500; R. B. C., 3,000,000; Hemoglobin, 45%; Smear, Negative for malaria. Urine: Routine examination, Negative.

August 6—Blood: Culture, Negative; Undulant fever, Negative; Wassermann, Negative; Typhoid agglutination, Partial complete, Doubtful reaction; Smear, Negative for malaria; Urine: Routine examination, Negative.

August 9—Blood: Culture, Negative; Typhoid agglutination, No change; Weil-Felix reaction, Complete 1:40 Partial 1:80; Feces: Culture, Negative for typhoid group.

August 12—Blood: Culture, Negative; Typhoid agglutination, No change; Weil-Felix reaction, Complete 1:320.

Diagnosis: Endemic Typhus Fever (Brill's Disease).

DISCUSSION

The facts that the patient had three doses of typhoid vaccine in March, 1933, that there was no positive culture from blood, urine, or feces, and that the agglutination against typhoid did not increase with the duration of the disease seem to indicate that there was no typhoid present.

It has been conclusively proved that the rat serves as a reservoir and that the rat flea is the natural vector of this disease to man. It has also been shown that the rat mite can become infected and may possibly serve as a vector. This patient had close contact for six months with rats in his store, but this contact terminated 27 days before onset of illness and his visits to Memphis and Pope, where there was no contact with rats, terminated 16 to 19 days before onset of illness. In his father's store, he was again in contact with rats for 16 to 19 days before onset of symptoms. None of the other persons employed in this store contracted the disease, but this is the usual experience with this disease and multiple cases are very seldom found in the same establishment over several months. As the incubation period is usually about ten days to two weeks and there was no other opportunity for infcetion, it seems highly probable that this patient was infected at the store in Brandon.

The clinical picture in every respect fits this diagnosis, and the complete agglutination with B. proteus X19 in a dilution of 1:320 and the fact that this serum is thermolabile is a positive and conclusive basis for the diagnosis.

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Pneumothorax

BY DR. F. E. REHFELT
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This is a condition which is met with in both medical and surgical fields. It is of interest to both the Physician and Surgeon. It is not always a condition that is easy to recognize, and it is one of the conditions the treatment of which may be purely surgical or medical; it is, therefore, plain that both lines of practitioners cannot be too well informed about this disease.

Pneumothorax is best divided into two general classifications, which as again subdivided into separate divisions.

I shall deal with the accidental or spontaneous Pneumothorax. Air is, of course, the agent which enters into the pleural cavity. This may gain entrance by several routes:

First, through an opening in the chest wall;

Second, through a break in the visceral pleura and alueoli of the lung;

Third, through fistulous communication with the alimentary tract;

Fourth, by the formation of gas on the part of anaerolic bacteria, present in the cavity. Also it may occur during aspiration of pleural effusion.

The symptoms of this type of Pneumothorax are coughing paroxysm, sharp stabbing pain in the chest. Dyspnea may be intense to the point of suffocation. The pulse is rapid, the skin is wet with profuse perspiration. The picture is that of profound shock. Again in the cases with a slow insidious onset, the recognition of the Pneumothorax is first by examination of the chest or by X-ray. Pain may be absent and Dyspnea not conspicuous.

SIGNS OF PENUMOTHORAX

The affected side is larger and less mobile. The respiratory movements are lessened. Displacement of the heart takes place and the apex impulse is lessened and displaced. Tactile Fremitus is diminished or absent. The liver is displaced downward if on the right side. The percussion note is loud and deep toned. The sound varies according to the tension of the air. The respiratory murmur is faint or absent. At times distant amphoric breathing can be heard. Rales, high pitched, are audible over the collapsed lung.

DIAGNOSIS OF PNEUMOTHORAX

The onset, history and physical findings are generally adequate to make the diagnosis. The X-ray will clear up and differentiate between a distension of the stomach on the left side, or a very large cavity on either side. Emphysema, by reason of tympanitic note and faint breathing, has been confused with Pneumothorax, however, Emphysema is generally bi-lateral.

Subphrenic gas from perforation of the stomach may closely resemble Pneumothorax. The X-ray will define the outline of the diaphragm. Diaphragmatic hernia in which gas filled stomach and intestines protrude into the thorax is very difficult to distinguish from true Pneumothorax. I recall having a case of this kind several years ago, and I would still be calling that patient's hernia Pneumothorax, had it not been for the aid of the X-ray in making the diagnosis.

PROGNOSIS

The mortality of all cases of spontaneous Pneumothorax is said to be about 70 per cent, there is practically no danger from partial Pneumothorax, resulting from accidental admission of air during thoracentesis. Pneumothorax complicating Emphysema whooping cough is favorable. Cases associated with tuberculosis, abscess and gangrene rarely recover. Complicated with chest injuries it is always a menace to life. Fifty per cent die during the first twenty-four hours, as a consequence of Pneumothorax, and hemorrhage. In gaping wounds it is nearly twice as high as with closed wounds, such as produced by a bullet.

TREATMENT

Morphine in sufficiently large doses to actually relieve is the sheet anchor. Thoracentesis to reduce the pressure is not safe, and should only be employed after mature consideration. The wound if in the thoracic wall should be closed, if this is the source of air.

In sero pneumothorax accompanying pulmonary tuberculosis, the chances of recovery are better if there is no surgical interference. Air and gas with pus in the pleural cavity demands but only one line of treatment and that is Thoracotomy.

SURGICAL OR ARTIFICIAL PNEUMOTHORAX

This operation, in my opinion, has been one of the most forward steps made in the treatment of pulmonary tuberculosis. Unfortunately it has its limitations, but they are due rather to the conditions we find than any defect of the treatment, and this very point should rouse us into being more alert to make our diagnosis earlier, so that the patient might reap the benefit from this treatment.

Another phase of pulmonary tuberculosis in controlled better by this treatment than any other we possess and that is hemorrhage. I recall a case where I was called out to see a patient about day light a few years ago, with the request to bring my "pulmotor." Well, as I have no "pulmotor," I carried my Pneumothorax machine. Upon my arrival I found a mournful household, no doctor at all and a patient lying on the bed that looked more like a corpse than a patient. He was covered with blood, blood on the floor, bed and sheets and blood soaked towels. It looked like two murders had been committed. Then a member of the family proceeded to tell me that there had been five doctors with him practically all night, that they had all worked very faithfully, but were unable to stop the bleeding and had given him up. They had already made arrangements with the Undertakers as soon as the patient should expire. He then arrived on the scene, heard the story as told him by the family, when he recalled that he had heard of some case like this where I had stopped the patient from bleeding to death with a "pulmotor." So it was he who called me instead of one of the Physicians.

Fortunately I had no difficulty in determining from which lung he was bleeding, and there were no adherent pleura, so in a very little while I was able to administer the air to him. To my surprise this man rallied and after more treatments and a tedious convalescence, he recovered from this terrible experience and finally left the city with an arrested case of tuberculosis. This was my last call from a layman for the "pulmotor" since that occurrence my calls for the use of this instrument have always come from

Physicians personally.

The induction of surgical Pneumothorax applies to bleeding into the bronchi and pleural cavity. This operation may be done with a small trocar or needle under strictest aseptic precautions in an emergency, pumping the air into the pleural cavity with a large graduated syringe. Of course, it is far preferable if the operation is performed with a standard machine equipped with a manometer. The puncture should be made as far as possible from the diseased area in the lung in order to avoid adhesions. The patient should lie on his side with the lung to be collapsed uppermost. Usually the seventh intercostal space in the scapular or axillary line is chosen. One very important thing to remember is to never hurt your patient. To avoid pain use your novocaine solution 1 or 2 per cent slowly but freely. By avoiding pain you avoid one of the very unpleasant complications of your operation. That is pleural shock, and I mean if you ever have a patient with it you will have the shock of your life.

When the needle reaches the pleura a slight advance in the indicator will be observed, showing slight negative pressure. When the pleura is punctured and you enter the pleural cavity, there will be recorded a negative pressure indicated as 4 to 12 C. M. of water. Now when the oscillations in the manometer are regular you turn on the air slowly and the flow of this will be visible if it is filtered through the water into the tubing and pleura. My rule is to admit about 200 C. M. of air in the first treatment, in two days repeat, but adding a little more air, so that by the third or fourth sitting I will have produced a slightly negative reading. Then about the fifth treatment I tried to get a positive pressure of about 3 C. M. At which it should be kept during the entire period of collapse. In cases of hemoptysis of course a pressure positive must be secured, or until the patient has pain or Dyspnea and it must also become organized. It is wise to check your first complete collapse with the X-ray, this gives you valuable information as to the existence and location of intra pleura bands, which may interfere with the proper collapse of the lung. After the lung has been well collapsed and settled to the new order of things I have made it an average rule to give a treatment every two weeks for the first six months, then every three weeks for the next six months, then once a month for the third six months, and finally once every six weeks for the fourth six months. This covers a period of two years. Of course, there are some arrested cases under two years, though there are some that go over two years. However, these are few.

Now some authorities tell you about giving anywhere from 100 to 500 C. M. of air. Well, I cannot agree to this fixed schedule. Giving air to a collapse case is like giving calomel to a fellow that needs it, give enough to get results. After my gradual collapse I then continue to give as much air as it takes to give a required positive manometer reading at every treatment. If the pleural cavity does not hold the air according to the average schedule then it must be given close together.

The indications for the use of artificial Pneumo-

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thorax are steadily being widened. Its main use of course is in the treatment of Pulmonary Tuberculosis, and it is beginning to be applied in all progressive cases in which general treatment is not checking the disease. This is especially true in unilateral cases. It is also well to bear in mind that the treatment should be kept up faithfully to a successful conclusion, because it has happened that where the treatments are stopped for months before recovery of the lung has taken place it may be found that the pleural cavity has become obliterated and no further treatments can be given. I have a case of that type now, that I saw last week.

I am beginning to lean more and more after having used it for thirteen years in a large series of cases that the incipient cases should be treated promptly without first wasting some valuable three to six months of time on rest cures and confinement to bed. Laryngal tuberculosis need not contraindicate. In cases with cavities it should be used. The early use will change our ratio in favor of more suitable cases and consequently more recoveries.

The results observed in suitable cases are lowering of temperature by virtue of immobilization of infective focus. Expectoration and cough are checked, and the general condition of the patient improves It also puts a patient back into society and permits them often to follow gainful occupation, so that they are not quite dependent and are kept in better spirits.

There is another disease of the lungs which is probably better handled by Surgical Pneumothorax than any other method and that is Pulmonary abscess. Surgically these are very difficult to handle, and certainly every case that can be collapsed should receive this treatment first, and then open operation as a last resort.

COMPLICATIONS

The accidents which may occur are (1) Air Embolism: this usually occurs through the entry of a pulmonary vein by the injecting needle. (2) Emphysema: the needle may deposit air into the subpleural connective tissues of adhesions, Pulmonary tissue, or by passing outside of the muscles of the chest may manifest itself as inter-muscular or subcutaneous Emphysema. (3) Plural Shock: is the result of traumatism or irritation. (4) Fluid Exudate may take place into the pleural cavity. (5) Displacement of mediastinum may occur. (6) Temperature is due to follow. (7) Injection through error, the normal side. Of this series of complications air emphysema is the only one which is really dangerous and leads to a fatal termination. The use of oxygen is said to be safer for the initial injection until the pleural cavity has been establshed, owing to it being more rapidly absorbed from the blood, and thereby relieving dangerous symptoms quicker.

My reason for presenting this paper to this society is in the hope that I might be creating more study and interest in this useful field, which is so wide spread over our land. I feel like that there should be at least one man in every three counties who is prepared to administer artificial pneumothorax when needed. If this treatment could be given to the people at large as mentioned above, it would relieve our institutions who are overburdened in taking care of Tuberculosis patients of a very heavy load; thereby saving the taxpayers considerable sums for these patient's care and also saving the patients considerable sums of money by being able to follow useful occupations, and make them at least partially self-sustaining.

A Comment On Foreign Bodies in the Food and Air Passages

BY ROBIN HARRIS, M.D.
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PRELIMINARY PREPARATION

Contrary to the general opinion, there is a certain amount of preparation necessary for doing foreign body work. Every patient, old and young, should have no food for five hours, and no water for two hours before peroral encoscopy is attempted. A very careful X-ray, and general examination by an internist, should always be made. While asepsis of the field is impossible, the mouth and teeth should always be cleaned thoroughly, and all artificial dental work removed. As a rule, the relatives of the patient can not understand why any preparation is necessary, and often are at a loss to know why one asks for an X-ray and general physical examination. Even in non-radiopaque foreign bodies such as watermelon seeds, a bean, or a grain of corn, the radiologist may, and often does, give the endoscopist valuable information as to the side on which the foreign body may be found: and the general examiner may also give valuable aid by making comparisons of the right and the left sides of the chest. In the esophageal cases, it is most necessary to get rid of all possible content by regurgitaion, especially if the patient is to be given an anaesthetic, since in that case food particles lodges above the foreign body might be partially regurgitated during the anaesthesia, and sucked back into the larynx or trachea.

POST OPERATIVE CARE

Just as important as the preliminary preparation; also, is the post operative care. All patients, old and young, should remain in the hospital for twenty-four hours, or longer, because of the possibility of laryngeal reaction. In young children, especially in cases of bronchitis from inspirated kernels of nuts, beans, peas, watermelon seeds, fruit pits, and worst of all, peanuts, there is usually, as a part of the diffuse laryngotracheobronchitis, a swelling of the subglottic tissues. This causes croupiness, and, in a child under two years of age the swelling is often so great as to require tracheotomy for obstructive laryngeal dysphoenia. For this reason, very young children should always be kept in bed in the hospital under observation for two or three days, or longer if necessary; and it is not infrequently necessary following bronchoscopy. The fact that people often bring a child with a foreign body in the trachea or bronchus to the hospital, expecting to have the necessary work done and return home in a few hours, makes it extremely difficult for the doctor into whose hands the patient falls, and long explanation is always necessary. Then the people are still dissatisfied. At best, bronchoscopy and allied procedure is the most delicate work, and requires the most detailed care that the Otolaryngologist has to contend with.

CASE REPORTS

Case 1. M. W., age 2, with a history of cough and croupiness which began thirteen days prior to admission to the hospital. The mother was suspicious that this baby had swallowed a safety pin, and after X-ray examination showed a closed safety pin in the trachea, it was decided by the parents that the pin had been present for thirteen days. There was marked bronchitis present. With no anaesthesia, the safety pin was easily visible through a small Jackson laryngoscope. The glottis was much swollen and very small. The upper end of the pin was grasped with a small forceps and removed without the introduction of a bronchoscope. There was no trauma, except that caused by dragging the closed rather large safety pin through the glottis. However, the afternoon of the same day, the little patient became to dyspneic that a tracheotomy had to be hurriedly done. The following day the temperature went to 101.5 F., gradually it came down to normal on the fifth day. At this the chest was perfectly clear. The tracheotomy tube was removed on the seventh day, and the breathing through the larynx from this time on was good. The condition was so good the parents were told on the seventh day that the child could go home the following day, but the temperature rose to 101 F.; rapid, hacking cough began, and death occurred during the night. Autopsy could not be obtained, and while there were no physical signs of this disease, it was assumed that pneumonia was the cause of death.

Case 2. E .B., age 2, while eating watermelon, a few hours prior to his admission, coughed and became dyspneic; afterwards, there were several attacks of croupy cough. A 3½ m. m. Jackson bronchoscope was introduced through a small laryngoscope, and the watermelon seed was seen at the entrance of the right bronchus. It was grasped with a very small foreign body forceps, and removed without anaesthesia. There was no reaction, no rise of temperature, and the patient was discharged after twenty-four hours.

Case 3. M. H., age 5, had attacks of dyspnoea and coughing at intervals of a few minutes, and told her parents that she had swallowed a safety pin. X-ray examination showed a safety pin, several times curled on itself, at the entrance of the esophagus. Under ether anaesthesia the larynx was lifted forward with a laryngoscope, and the pin quickly grasped and removed. There was no laryngeal reaction, and the patient went home after twenty-four hours.

Case 4. B. R., age 3, while eating watermelon thirty-six hours before admission to the hospital strangled, and turned blue in the face. Since that time he had had several attacks of coughing accompanied by dyspnoea. The foreign body could be heard to move with a slight cough. With no anaesthesia, the foreign body was seen through a 3½ mm bronchoscope, at the entrance to the right bronchus. It was grasped with a small forceps, and removed with no difficulty. No reaction was expected, but during the night dyspnoea became so marked it was advisable to do a tracheotomy. The following day the temperature was 99.6 F., and the pulse rate 90. After four days, the tracheotomy tube was removed and the child was allowed to return home after one week. The trachea wound was healed, and there was no difficulty in breathing.

Case 5. M. M., age 7 months, difficult breathing and cough, with some rattling in the chest, began two days before entering the hospital, while the mother was feeding the baby peanuts. The mother was sure the child had inspirated a piece of peanut hull. X-ray examination revealed an area of increased density about the lower right bronchus, and examination by an internist, indicated that there was some bronchitis in this area. A 3½ mm. bronchoscope was introduced through a small Jackson laryngoscope and the foreign body located in the right main bronchus. It was removed with no difficulty, and a second search was made without removing the glottis with some difficulty, and of course, some swelling was expected. A tracheotomy was necessary about twelve hours later, and the tube could not be removed without dyspnoea resulting, until the eighth day. The breathing, then, was somewhat difficult, but did not necessitate reintroduction of the tracheotomy tube. The patient was discharged in good condition on the thirteenth day.

Case 6. J. S., age 3, gave a history of difficulty in swallowing, which began while eating fish about twenty-four hours before entering the hospital. Under ether anaesthesia a fish bone was found sticking in the upper right posterior wall of the larynx. The foreign body was easliy removed through a small Jackson laryngoscope, There was no trauma, as only the epiglottis was touched with the instrument, so the child was allowed to go home as soon as he awakened.

Case 7. J. A., a fat, healthy, sixteen months old boy was admitted to the Mississippi Baptist Hospital Oct. 14, 1929. Mother was sure that the baby had choked on a dime, with which he was playing. There was no vomiting, and no dyspnoea. Skiogram showed a large coin in the upper portion of the esophagus. The coin appeared to be about the size of a twenty-five cent piece, but though the patient's name was Abraham, it hardly seemed that the interest could accumulate so rapidly, still we were sure it was not a dime. Under ether anaesthesia the esophaguscope was passed gently and easily into the stomach, and no foreign body located. A post-operative skiogram was made immediately afterwards, revealed a foreign body in the stomach. Explanation of this, is that the ether anaesthesia relaxed the muscles, and the coin was swallowed during the anaesthesia. Two days later a nickel was passed and the family doctor is still at a loss to know why the dime was decreased to a five cent piece, and no interest had accumulated.

Case 8.R. S., age 6, history of hoarseness of one week standing which began while drinking juice from a watermelon. Auscultation indicated that there were diminished breath sounds on the right side. Under ether anaesthesia, a 4 mm. Jackson bronchoscope was passed, and the foreign body noted just within the right main bronchus. The foreign body, a watermelon seed, was grasped with an ordinary small forceps, and removed without difficulty. The whole operation required less than four minutes. The patient was hoarse, but had no difficulty in breathing. He was allowed to leave the hospital on the third day, and made an uneventful recovery.

Case 9. L. H., age 34, history of having swallowed a piece of pork chop bone forty-eight hours previously, and had been unable to swallow since then. The teeth were very poor, many of them broken, and all of them carious. Under ether anaesthesia, several pieces of bone were removed from the first constricted area of the oesophagus. While removing one rather large piece of bone with meat attached, the forceps lost the foreign body at the top of the larynx just as the patient inspirated. The piece was too large to go between the vocal cords, but fitted snugly on top of the larynx so that no air could enter. While changing from the oesophagoscope to the laryngoscope the patient became very cyanotic, and a tracheotomy set was rolled up on a Mayo stand ready for use. However, the foreign body was easily removed as viewed through the laryngoscope, and no further difficulties were encountered. A bougie was then passed into the stomach to see that there were no pieces lower down. From that time on the patient swallowed normally, had no more pain, and his recovery was rapid, and uneventful. He has since had all of his teeth extracted, and artificial teeth made, in order that no such accident will happen again.

Surgery of the Sympathetic Nervous System for Relief of Pelvic Pain

BY FRANK HAGAMAN, M.D.
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Now that the exact anatomy and physiology of the pelvic sympathetic nervous system is known and surgery of that system has definitely passed the uncertain, experimental stage, it is to be hoped that therein lies the solution to the perplexing problem of obtaining relief from the severe pain due to inoperable new growths, ovarian neuralgia and intractable dysmenorrhea.

Every practitioner can recall in his own experience one or more examples of severe, painful menstruation which have persisted despite all forms of medical and surgical treatment. Fortunately sixty percent or more of all dysmenorrhea can be relieved by the elimination of associated organic disturbances, such as obstruction to the menstrual flow by constriction of the cervical canal, uterine displacement, pelvic inflammation, etc. There remains, however, a distressingly large group which either presents no organic basis or is not relieved by the removal of the associated condition. These examples of so called functional dysmenorrhea must have as their basis a disturbance of the uterine nerve supply and, therefore, offer a fertile field for sympathetic nerve surgery.

The uterus receives its sensory nerve supply from the superior hypogastric ganglia of the sympathetic nervous system together with branches from the sacral plexus. As the nerve filaments extend downward into the pelvis from the superior hypogastric ganglia they sometimes converge into one nerve below the bifurcation of the abdominal aorta, more often are present as a plexus (superior hypogastric). This is more commonly referred to as the Presacral Nerve despite the fact that it is seldom a single structure. After entering the pelvis the Presacral Nerve divides into a right and left group, the inferior hypogastric plexuses. From these are sent branches to the bladder and vagina but the major portion join the branches from the sacral plexus to form the great plexuses of Frankenhauser which lie in each broad ligament just lateral to the uterus and distribute their branches to the uterine substance.

In 1921 LeRiche recommended peri-arterial sympathectomy of the internal iliac arteries for the relief of functional dysmenorrhea. His success with periarterial sympathectomy was not dependent on the then accepted theory that the sympathetic nerve supply corresponded to the distribution of the blood vessels but rather to the later proven fact that the sumpathetic nerves follow the larger vessels for a greater or lesser distance before rejoining the peripheral nerves which they accompany to their termination. In 1925 Cotte described resection of the presacral nerve for the relief of uterine pain and in 1932 Fontaine and Herrman presented in the American literature a very comprehensive "Clinical and Experimental Basis for Surgery of the Pelvic Sympathetic Nerves in Gynecology," and reported the results obtained in twenty-two cases. At the time of this publication the writer was struggling with a most intractable case of functional dysmenorrhea and was so favorably impressed with their work that he advised and was allowed to resect the Presacral nerve The result in this case and seven subsequent cases is the basis for this report.

Case 1. On September 12, 1931, Miss B., a stenographer, age 21, came for examination on account of severe pain at the menstrual time which had caused her to get weak and nervous and lose her appetite at her periods since the age of 12. For the past six months the pain had increased in severity and she had fainting spells which came on a day or so after each menstruation. Examination revealed no abnormality of the pelvic organs with the exception of a small cervix and she was advised to have a dilatation of the cervical canal. Ten days later she developed an attack of acute appendicitis for which an immediate operation was done. The uterus, ovaries and tubes were explored for any possible cause of the dysmenorrhea and were found normal. Dilatation of the cervix was done. Her convalescence was uneventful but the next menstrual period was as much or more painful than the one preceeding the cervical dilatation and each menstruation thereafter continued to be increasingly severe until four months later when another dilatation of the cervix was done and a stem pessary introduced. This was worn through a menstrual epoch but gave no relief. But this time the pain was not limited to the duration of menstruation alone but continued practically the whole month. Because of increased weakness, nervousness and pain she had to stop work and remain in bed most of the time. March 31, 1932, resection of the Presacral Nerve was done. Immediately after her reaction from the anesthesia she stated that all pelvic pain was gone and never since then has it returned. On February 14, 1933, eleven moths following resection of the Presacral Nerve she replied in answer to an inquiry: "As I stated before I do not have any pain during my

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periods."

Case 2. On May 16, 1932, Miss M., age 27, a school teacher, reported for examination and treatment for painful menstruation, so severe that it was usually necessary for her to remain in bed during the menstrual flow. The flow was quite free for the first two days and the pain was no more severe at the beginning than at the end of menstruation. Examination showed the uterus in retroversion with some thickening of the posterior surface of the cervix. The following day an internal Alexander suspension of the uterus; appendectomy; dilatation of the cervix and resection of the Presacral Nerve was done. Convalescence was uneventful and she has communicated several times since then that she was getting along nicely. On January 31, 1933, she reported: "I am getting along beautifully. Never have a pain during my monthlies."

Case 3. OnJune 23, 1932, Mrs. G., age 35, stated that menstruation had been painful for four years, much worse for the past four months. She cramped badly for two weeks before each period and had to stay in bed the first day of each period. At the time she came for examination she was not menstruating but if she stood on her feet for as long as an hour she would hurt so badly in the pelvis that she would have to lie down. Examination of the pelvis revealed no abnormality except tenderness of the uterus. June 24th, the following day, laparotomy was performed, the pelvis organs and gall bladder were found normal, the appendix had been removed at a previous operation and no adhesions were found in the abdomen or pelvis. Resection of the Presacral Nerve was done and no complications developed post operative. Every since she has had no pain in her pelvis and February 20, 1933, she reported: "I have menstruated regularly since my operation and have had no pain."

Case 4. Mrs. J., age 24, came June 27, 1932, complaining of backache and painful menstruation. She had had two miscarriages, one three years ago and another one year later; no children. She had had backache and painful menstruation since age eleven. The backache had been worse and almost constant for three years. Examination of the pelvic showed retroversion of the uterus, otherwise negative. At operation, June 28th, the following day, the uterus was found to be retroverted, the right ovary cystic and the appendix chronically diseased. An appendectomy, right oophorectomy, internal Alexander suspension of the uterus and resection of the Presacral Nerve was done. Ten days later she left the hospital in good condition and February 11, 1933, reported: "I have gained in weight twenty pounds and have never a pain during my menstrual period."

Case 5. Mrs. M., age 24, stated she had cramped badly at each period since she begun to menstruate, probably getting worse. Examination July 10, 1931, showed a hard, conical cervix, and on the following day the cervix was dilated and stem pessary introduced. Routine Wassermann was found positive and antisyphilitic treatment begun. One year later she

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was still having very painful menstruation and resection of the Presacral Nerve was done. There were some adhesions from the operation in 1918 when the right ovary and appendix were removed but no other pathology was found. She left the hospital in the usual length of time and did not report until February 28, 1933, when she stated: "I had a little pain with the few periods after my operation but since then the pain has been less and now I do not cramp at all."

Case 6. Mrs. M., age 23, came October 22, 1932, complaining of attacks of pain in the right lower abdomen and very painful menstruation. For the past six months the pain in the appendiceal region had been almost constant. The menses began at 18, very painful from the beginning with scant flow. October 24, the appendix was removed for chronic inflammation and resection of the Presacral Nerve was performed. The uterus, ovaries and tubes were normal. This patient was a member of a religious sect that has as part of its doctrine a disbelief in medicine and Surgery, and came to the hospital under protest. In spite of that mental handicap she reported February 11, 1933: "Have had one menstrual period since my operation, it was not painful. Supposedly I am about two months pregnant." This was of especial interest since it afforded an opportunity to observe the effect of the operation on pregnancy and more particularly parturition. November 3, 1933, we were pleased to receive an answer to our inquiry in which she stated: "I did not have very many pains when the baby came. The women that were with me said I had an easy time and I thought so too."

Case 7. Miss H., age 18, complained of very painful menstruation; general abdominal soreness; indigestion; weakness; drowsiness and frequent attacks of sore throat. Examination which included complete laboratory and X-ray reports showed the presence of hook worm ova in the stool but no other gastro-intestinal lesion. The vaginal examination was negative except for a slight backward displacement of the uterus. The tonsils were chronically diseased. On the following day the appendix was removed, the uterus tubes and ovaries were normal and resection of the Presacral Nerve was done. She has not entirely recovered from the hook worm disease, but February 20, 1933, she wrote: "Yes, the operation helped me greatly, the few pains I now have are nothing to compare with what I formerly had."

Case 8. Mrs. B., age 30, complained of dull aching, boring pain in her lower abdomen. Although the pain was not confined to the pelvis it was worse during menstruation. The appendix and right ovary had been removed at a former operation, four years before. General examination revealed hookworm disease. The cervix was badly lacerated and chronically infected. The perineum showed an old second degree laceration. Pelvic examination was otherwise normal. December 6, 1932, Sturmdorff amputation of the cervix, perineorrphaphy and resection of the Presacral Nerve was done. In January, 1933, the next month after operation, she reported that she had pain in her back and in the region of the left ovary at the time of menstruation, but in February, one month later, she stated: "I felt a little better this month, had some pain but not so much as did before."

It will be noticed that this is the only incident in which the menstrual pain has not been relieved. Attention is called to the fact, however, that the time elapsed since the operation is just a little more than three months. Remembering that one other case had some pain for several months after the operation and finally got complete relief, it is to be hoped that this later case will pursue the same course.

The operative technique was the same in each case. All other surgical procedures having been completed, the method as described by Fontaine and Herrman was followed as closely as practicable.

With the patient in extreme Trendelenberg position and the intestines carefully packed out of the field, the aortic bifurcaton is visualzed and an attempt made to locate the fibers of the Presacral Nerve beneath the peritoneum before this structure is incised. This can frequently be done in thin individuals. The peritoneum is caught with forceps and a vertical incision made extending down from the bifurcation, the nerves are isolated from the surrounding tissue by dry dissection and one inch or more of each one excised. Care should be taken not to injure the mesentery of the sigmoid colon, the ureter or the underlying vein and artery. In one of the reported cases the base of the colonic mesentery was directly over the nerve and had to be displaced to the left before the nerve could be identified. In several a very large vein presumably the iliac, was encountered just beneath the nerve and care had to be taken not to injure it. Of practical knowledge is the fact that the ureter is always adherent to the peritoneum, the Presacral Nerve never. Bearing these precautions in mind, however, there is nothing tedious or difficult about this procedure and it should not consume more than five or ten minutes once the knack of recognizing the nerves is attained.

The procedure in those cases presenting pain due to inoperable neoplasms or ovarian neuralgia is the same as described plus resection of the third and fourth lumbar sympathetic ganglia on both sides.

CONCLUSIONS

1. Eight cases are reported in which resection of the Presacral Nerve was performed.
2. All but one have secured relief. This report is only three months post operative and judging by the behavior of Case 5, relief may be expected.
3. Five showed no pathology of the pelvis or adnexa and no pelvic surgery other than nerve resection was performed. The remaining three had some associated pelvic condition corrected.
4. Two had previous dilatation of the cervix-uteri with no relief.
5. All had an uneventful post operative convalescence without complications.
6. The operation for resection of the Presacral Nerve is simple of execution, does not preclude the performance of other necessary surgery and apparently is a valuable addition to the armamentarium of the pelvic surgeon.

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The Medical Economic Problem in Modern Practice

BY L. C. SANDERS, M.D.
Memphis, Tenn.

In the past quarter of a century momentous changes have occurred in every business or profession that has kept step with the times. In no field has the advancement of knowledge been greater than that which concerns cause, prevention and treatment of disease.

The profession itself has demanded higher and broader standards of medical education and practice. Our effort has been to produce the best possible service and make it available to the people at all times.

This problem of providing satisfactory medical service to all the people at costs which they can meet, is a pressing one. Interwoven into and an intricate part of this problem is the economic life of the medical profession.

Private individual practice is the predominant institution in medicine. Under this system medical services are provided but not equally distributed. It is clear that some plan is in order to more evenly coordinate the functions of private practice and at the same time provide a better economic standard for physicians as a whole.

The cost of medical care is beyond the means of the average family on a limited income. This cost to the people of the United States in 1929 was $30.00 per capita per annum. For many families this cost was many times greater, while others had practically no medical expense.

The average income of all physicians in the United States in 1929, was $5,300. However, one third of all private practitioners had net incomes of less than $2,500. It is evident then that no solution to the problem of medical costs can be reached through a reduction in the average of professional incomes.

The present need seems to be a reduction in cost of medical care to within the means of the average citizen; and the increase in professional income to provide physicians with sufficient means to meet their mounting expense.

Medical costs have increased in proportion to the advance of medical science and knowledge. The enormous expense of scientific investigation, hospitals, equipment, preventative medicine and other means of modern care, has been paid by the public. In return, the people have profited by the eradication of many devastating diseases, by the reduction in mortality rate and by the advancement in knowledge of the medical and surgical care of the sick and injured.

Progress in medicine necessarily has brought with it many perplexing problems. There seems to be many reasons why the solution to these problems require a readjustment of ideas in medical practice.

(1) Medical education costs have increased many times during the past generation.

(2) Medical equipment, the employment of trained assistants, office rent and expensive transportation have raised enormously the over-head expense.

(3) Medical society dues, books, perodicals, legal protection and post-graduate study, unknown in early medicine, are a necessary part of the modern physician's expense.

(4) The family budget carries provision for food, clothing, shelter, recreation and education, but is inadequate for medical care.

(5) Free clinics and charitable service are demanding more and more of the physician's time. Over $3,500,000,000 is invested in lands, buildings, equipment and endowment of hospitals and clinics in the United States. Of this investment 90 per cent has been provided from Government funds or from philanthropic individuals and organizations. Inadequate provision has been made for the financial remuneration of medical workers serving the poor in these institutions and clinics.

(6) Business competition with industry has made collections for medical services increasingly difficult. Modern bookkeeping, credit rating and collection methods have not been generally adopted by the medical profession.

(7) Medical facilities and medical practice have grown very complex and often confusing. Approximately 45 per cent of the physicians are devoting a part or full time to a speciality. As a consequence, many patients consult one spcialist after another, before finding the cause of their complaint. This duplication of effort is time consuming and expensive. The popularity of specialism and scientific technical laboratory precedures has reached its peak. The pendulum is swinging backward toward the middle ground and the value of general practice is being more widely appreciated.

(8) The schedule of fees is fundamentally different from any other profession in business. Food, clothing and shelter are the primary considerations of any citizen. Prices for these commodities are variable to meet the needs of all classes of people. A person with a small income can purchase inexpensive necessities. One with a large income can afford more expensive commodities and luxuries. Thus in industry the law of supply and demand is easily regulated. In medicine the problem is entirely different. The physician renders the same service to all regardless of their ability to pay. Medical and surgical fees necessarily must be in accordance with a patient's income. This leaves a wide range of margin and is often confusing.

In recent years the cost of medical care has been widely discussed. Due to wide geographic distribution of population and to the complexities and problems of local communities, a national program of reform seems impossible. The better plan seems for each community to concentrate its effort toward solving its local difficulties, being aided by the national council on medical care.

Already twenty-five separate and distinct methods are in force in various sections of the United States in an effort to reduce the cost of medical care. The large number and variety of these methods is evidence of the need for constructive thought and

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action by the medical profession. One of the most serious problems arising from organized effort is the exploitation of the medical profession under commercial sponsorship. Unless the medical societies are alert, insurance companies and loan associations may have command before the profession awakes to the danger of commercial control of medical care.

The medical profession throughout the world is trying to solve its economic problem. Most of the countries in Europe have adopted health insurance for both medical and hospital care. At first it was purely voluntary, but later a number of countries, notably, Germany, Austria and France made the insurance compulsory. They have included in the insurance, compensation for loss of time during illness. In England at the present time 4,000,000 people subscribe to hospital insurance.

In this country, of the twenty-five plans for medical care in force, several are operating in our community.

In a nearby city there is a group of physicians representing the various specialities, which has adopted an insurance plan for the medical and hospital care of patients who subscribe to the insurance fund. The premium for this insurance is deducted from the employees wages and remitted to the group by the employers. In return, medical, surgical and hospital care are provided by the group.

National and local insurance companies are issuing health and accident insurance to preferred risks. Some of these policies include hospital care and surgical fees. The primary function of this insurance however is to refund the insured for loss of time incurred by illness or accident. The benefits due are payable direct to the insured and there is no guarantee for medical care.

Workmen's compensation and industrial insurance is operating in all sections of the United States. This is a form of medical care assumed by industry for the protection of its employees. The financial support is maintained by the monthly payment of dues by the industrial workers. The plan is applicable only to those industries employing large groups of people. Medical service is usually on a contract basis and has no supervision by organized medical societies.

The four private hospitals in Memphis have adopted an insurance plan for the hospital care of patients who are satisfactory risks. The payment of a small monthly fee entitles the insured to a limited hospital service. The principal advantage of such insurance is that since it provides financial aid to those who have high cost illness, its cost is much less than insurance for all forms of medical expenditure. Physicians, nurses and hospitals profit from such a plan since some bills are paid, which in the absence of an insurance plan, would not be paid.

Many more plans could be discussed but these few serve to emphasize the fact that the trend of the times is toward organized effort to relieve some of the burden of the care of the sick.

Insurance of all types is becoming increasingly popular. In the commercial world it is possible to insure almost anything against loss. It is but a step forward to add insurance against confining disease. The chaotic condition of our financial and social structure is causing the people to seek protection against any form of calamity. Medical care is a part of our social and industrial life and changes in one necessarily effects the other.

The National Committee on the Cost of Medical Care, after an exhaustive study, embracing conditions throughout the United States, recommend certain changes in the present methods of medical care. One of the chief points in the Committee's study was the recognition of some form of financial relief for the people who become ill and for workers devoting their time to medical care. The recommendations were variable and elastic enough to fit the needs of almost any community.

At the present time, the wealthy and the well-to-do people have no difficulty in meeting the expense incurred by illness. Hospitals, physicians and nurses receive their margin of profit from the care of this class. The very poor receive, without expense, hospital care from municipal governments and social agencies. The medical service, however, is rendered by private physicians without remuneration from any source. The middle class with small incomes are at present the greatest to care for. As a rule they are without surplus or borrowing power and illness to them is a financial catastrophe. Short confining illness can be financed on a monthly basis, but prolonged illness and surgical treatment, requiring hospitalization is beyond their means of financing.

There is abundant evidence that the people in the United States are interested in public health. Newspapers and magazines are contributing a vast amount of subject matter on the promotion of health. Commercial enterprises are exploiting the interest of the people in the improvement of their health. Women's clubs and business men's organizations have assumed leadership in the attack on various disease problems. Hundreds of universities and industries have taken the initiative in providing organized medical services for a small proportion of the people.

Since the public and the medical profession are equally involved in the economic problems, their joint efforts will greatly aid in the successful management of any change which will better the health and conserve the cost to all concerned.

Private practice has always been a personal contract between physician and patient. To contemplate any change which would interfere with this relation would upset the fundamentals of the medical profession. Our code of ethics, our ideals, and our influence are all dependent upon personal contact with those whom we serve. This personal element has kept our profession from adopting drastitc commercial methods in dealing with the sick.

It appears that the time has arrived for some constructive plan to aid in the medical care of those who are unable to finance their own illness. Such a plan should conform to the following requirements:

(1) It should be approved and controlled by organized medical societies. This is necessary to prevent commercial organizations from gaining control through financial supremacy.

(2) It should offer equal participation to all the members.

(3) It should protect the personal liberty of all physicians.

(4) It should be eligible to all classes of people.

(Fee schedules can be adjusted so that those who desire may receive more expensive accomodations.)

(5) It should be simple, practical and appealing to the public. (The advice of business executives can be of inestimable value in formulating suitable plans.)

(6) It should be free from graft, political favoritism, and on a non-profit basis.

(7) It should coordinate with our present system without interfering with the fundamentals of medical practice.

(8) It should guarantee free choice of physician.

It is natural to view with reserve any departure from standards which have stood the test of time. The reason for considering a change, however, is to further the profession's program for constructive work in the care of the nation's health. This conclusion was reached by the Committee on the Cost of Medical Care after a five year study of our present economic condition. This Committee further recommends that trial plans be formulated by county and state medical societies.

The most desirable plan is one which will not in any sense interfere with the present method of medical practice. Such a plan can be worked out, which will enable patients with moderate incomes to meet all or part of their medical obligations. The basis of a plan could be as follows:

(1) The establishment of a common fund under the control of the medical society.

(2) The maintenance of this fund to be provided for by the direct payment by the patient of a certain minimum amount monthly, in anticipation of illness.

(3) The fee to be regulated by a sliding scale in accordance with the patient's circumstances, providing for a minimum level on a cost basis and a maximum level comparable with the fees now paid by the average person.

(4) The funds to be administered on a non-profit basis.

(5) The patient will have free choice of physician.

(6) The fee for medical care will be paid from the common fund direct to the physician.

(7) The amount of the charge will be regulated according to the terms of the contract and the type of service rendered.

(8) An arbitrary board can be appointed with lay representation for the settlement of any differences which may arise in the financial distribution.

Some of the disadvantages of the plan are:

(1) It is a departure from the present system of a direct responsibility of the patient to the physician for services rendered.

(2) It is purely voluntary and will not appeal to many patients who are now receiving charity service.

(3) It will be difficult to regulate the fees for prolonged illness.

(4) The common fund may be inadequate at first to pay the physicians their normal fee.

(5) It does not provide service to those who cannot pay the monthly fee.

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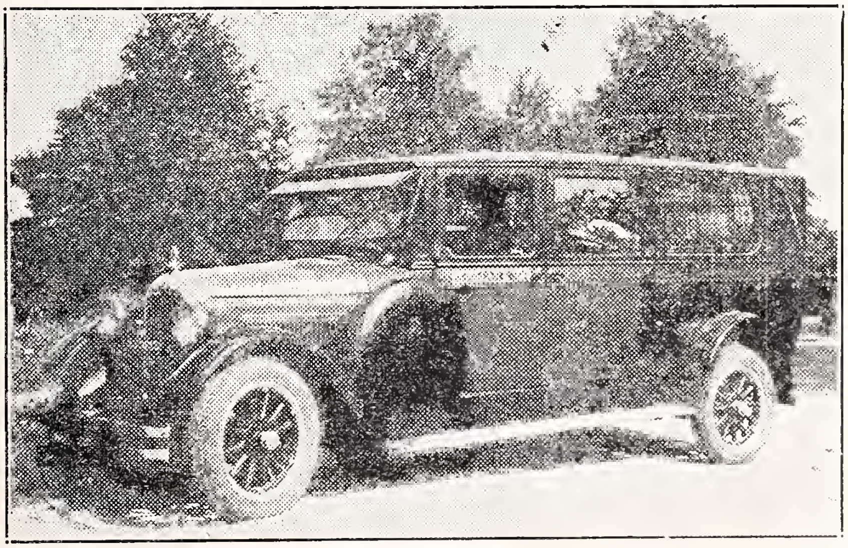

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(1) It will enable patients of very moderate means to provide funds on a saving basis for future needs.

(2) It will provide for a part or full payment to the physician for services, which under the present system, may be uncollectable.

(3) It will permit many patients now receiving free service to finance their medical care.

(4) It provides for the freedom of choice of physician.

(5) It places the responsibility of the quality of service directly on the organized profession.

(6) It keeps the responsibility of medical care on the medical profession instead of lay corporations and insurance companies.

(7) It will be on a non-profit basis with the advantages of insurance without the abuses of ordinary health insurance.

(8) Patients subscribing to this plan and also the hospital insurance plan may be able to finance their entire illness without mortgaging their future.

We are all familiar however with the enormous increase in the number of charity patients treated in public clinics and institutions. We also recognize the futility of regulating the number of people who actually deserve free service.

Medical health centers and free clinics were fostered by public spirited citizens bu the actual operation is carried on free of cost by the physician.

Just as the correction of Government extravagances must come through actual changes within the agencies rather than from mere opposition to them, the correction of conditions in free service organizations must come by reforming the organizations themselves. Public health has been and always will be a matter of deepest concern to the medical profession. It is unfair, however, for the present and future generations of physicians to bear the major burden of the care of the sick.

Some such plan as outlined, if properly executed, may have far reaching benefits for those, who at present, are unable to finance their medical care. Any group of physicians or medical organizations, contemplating organized effort toward better and more economic medical service, should adopt the plan best suited to the local need.

Any method of relief must be carefully planned. It must have the hearty support of the majority of the members of the medical society and it must be popular with the people. Time alone will iron out the difficulties and smooth the way for its successful function.

Any change which will relieve, to some extent, the present economic burden of medical workers and, at the same time, invoke in the hearts of men self respect and personal responsibility for the care of their sick, will be a decided improvement in our professional and social order.

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The Heart in Pregnancy*

BY OSCAR W. BETHEA, M.D.
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Since the publication of the great work of that old master of cardiology, Sir James McKenzie[1], the medical profession has been more keenly alive to the importance of the relation of the damaged heart to pregnancy and labor.

I regard it as a favorable indication that this distinguished body of gynecologists and obstetricians should have deemed it advisable to make a place on their program for the presentation of this subject from the standpoint of the internist.

The American literature covering internal medicine is strangely silent on this subject and we have to turn to the works on gynecology and obstetrics to find any detailed information. In the British Isles a dozen years ago, McKenzie gave to the world his famous monograph, and this year Lewis[2] in his volume on "Diseases of the Heart," has discussed in much detail the heart of pregnancy as a special subject.

We are confronted with three major problems. (1) Shall the young woman be advised against marriage or the young wife against pregnancy with its rich heritage of motherhood; (2) the management of pregnancy so that the damaged circulatory apparatus may be conserved; (3) the if, when and how of the interruption of pregnancy in the presence of increasing danger.

It is hard to imagine a greater injustice than that of unnecessarily advising against marriage and motherhood, and yet we constantly meet women who have been so instructed upon no other evidence than that of an immaterial murmur or a minor arrhythmia. The present tendency is to regard no valve lesion as of material importance in this particular except mitral stenosis and aortic regurgitation. The latter is comparatively rare for as Lewis[2] has reminded us, most heart disease in young women is rheumatic in origin. The only arrhythmias that would suggest much danger in pregnancy are auricular fibrillation, auricular flutter and block, and these not so much as irregularities per se, but as indicating an established organic disease of the heart.

From the standpoint of pregnancy, the main consideration is the functional integrity of the heart. It has been estimated that the normal heart is able to do about ten times the work required of it when the body is at rest. It is the amount of this additional working capacity, known as cardiac reserve, that really counts in a given case. In the earlier months of pregnancy there is little additional burden put upon the heart except where there is some such complication as pernicious vomiting. In the later months the demands are increased but even then they are not excessive; only prolonged. Labor, particularly the second stage, may enormously increase the requirements for cardiac work. De Lee[3] estimates

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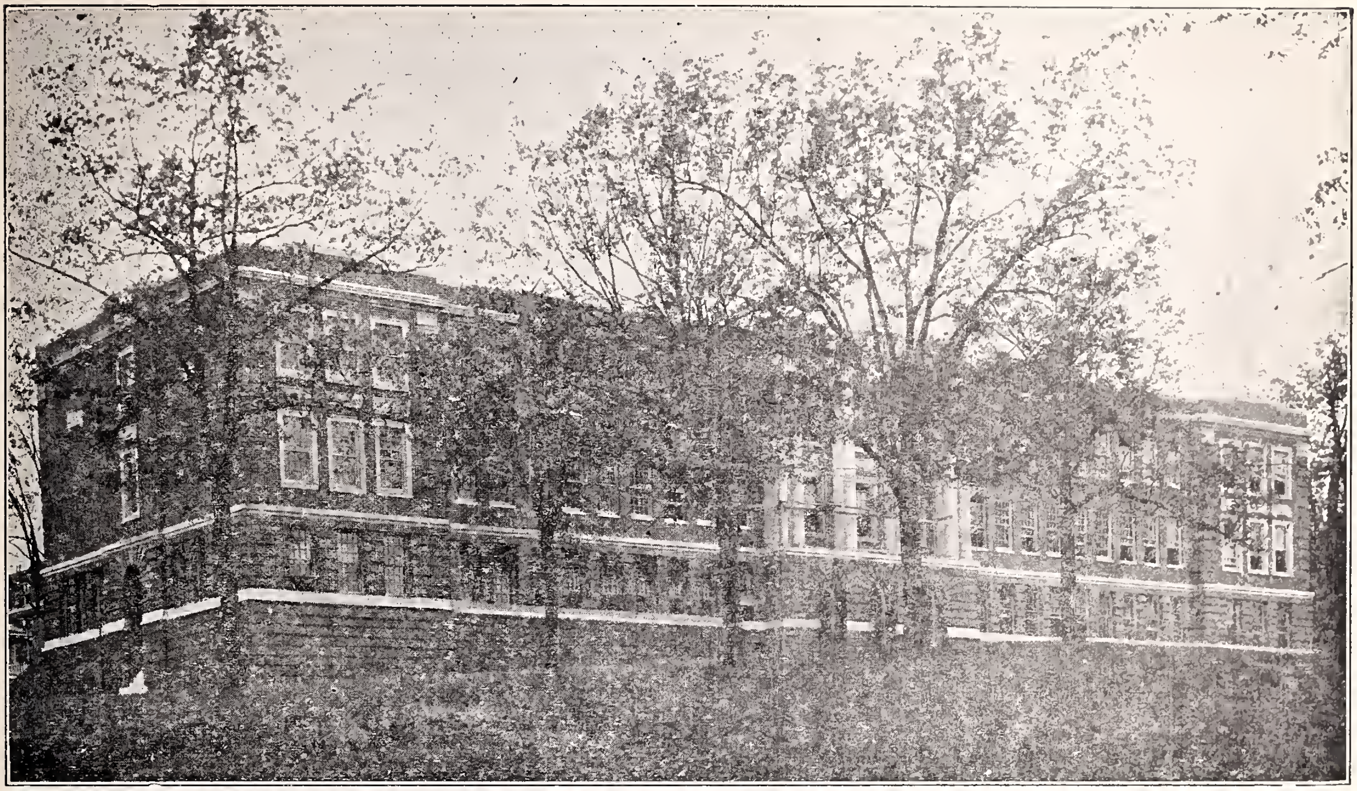
*Read before the joint meeting of the New Orleans Gynecological and Obstetrical Society, the Second District Medical Society and the General Staff of the Southern Baptist Hospital, Nov. 28, 1933.



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that this is more than fifty per cent in the average case. It may much exceed this under special conditions. He further calls attention to the fact that there may be more than mere mechanical trouble. Disturbance of the thyroid and other endocrine dysfunctions may complicate the situation. There may be kidney and liver impairment, pulmonary interference, venous congestion and other factors leading to such results as carbonic acid narcosis. These may occur in any case and the problem we are considering is the increased risk from the cardiac impairment in the patient before us. In other words, has the particular individual sufficient reserve to meet the possible and probable additional demands or will failure result? It is often impossible here, as in many other situations in medicine, to make a positive statement, but with our present knowledge and equipment we can make a reasonable estimate of the margin of safety and lay the facts before these concerned. In many instances the economic condition of the family, the intensity of the desire for a child, religious convictions, and many other factors present problems that necessitate the final decision being left to the woman concerned. Where there is appreciable enlargement of the heart and poor exercise tolerance, the risk is so great that the physician could not be justified in giving other than an adverse opinion. The cardio-respiratory test elaborated by Frost[4], consists of a series of respiratory efforts measured by a spirometer during which sixteen blood pressure determinations are made and diagramed. These have been worked out on thousands of cases, the individuals followed up for years by the great insurance companies and the final results tabulated, so that now we can tell with a fair degree of accuracy the cardiac reserve of an individual and its influence upon her life expectancy. I regard this test as a distinct contribution to the science of cardiology. In giving advice as to a second pregnancy, Lewis[2] insists that our best criterion is the reaction of the individual during the first experience.

The management of pregnancy, where the patient has a damaged heart, is practically the same as it would be for a similar condition under other circumstances except that unusual care is required. The patient should be under constant observation, and cardiac and renal functional tests should be made at regular intervals and the results carefully recorded for comparison. Some degree of rest both mental and physical is always necessary, and all activity should be kept within the field of the cardiac possibilities of the individual; that is, nothing should be done to the point of causing breathlessness. The diet should be such as will make the minimum demands upon the various structures involved. In a general way the patient should be kept in the best possible state of well-being.

The question of interrupting pregnancy involves some grave problems. The present tendency is increasingly conversative. For example, McKenzie[1] twelve years ago said: "When, however, a woman with undoubted heart disease such as mitral stenosis does become pregnant the pregnancy should be allowed to continue only so long as no marked signs of heart failure are present." Curtis[5], this year states: "Heart lesions are a consistently narrowing indication for therapeutic abortion, the emphasis being placed upon proper management of the cardiac situation, rather than upon abortion." He further insists that in these cases special attention to the heart must begin early in the period of gestation. De Lee[3] has recently reminded us that the majority of even normal pregnant women present a systolic murmur at the base and an accentuation of the aortic second sound and that occasionally there is also a presystolic murmur and displacement of the apex beat. He cautions however, that it is not always easy to eliminate the presence of actual cardiac pathology. He emphasizes that in labor the principal danger is from the poorly compensated heart, for during the second stage particularly, there are marked fluctuations in blood pressure which make additional demands on an already overtaxed, damaged structure. Of the valve lesions, he considers mitral stenosis first and aortic regurgitation second in importance. In the defects of mechanism he attaches most significance to bundle-branch block but feels that in the last analysis the final results depend principally upon the amount of cardiac reserve. He regards attacks of decompensation as ominous, especially if repeated and feels that if rest in bed, removal of foci of infection and medical measures do not give relief, that the uterus must be emptied or that both the mother and the child will be lost. Herrmann and King[6] in an extensive electrocardiographic investigation found auricular fibrillation and bundle-branch block very unfavorable developments. Curtis[5] considers mitral stenosis first in importance of the valve lesions, aortic regurgitation next, and holds that with either of these conditions material cardiac enlargement carries a grave threat. When there is persistent decompensation he considers the survival of the child unlikely due to the anoxemic placental circulation. Taking heart cases as a whole, De Lee[3] places the cardiac mortality of pregnancy and labor at about six per cent; Lewis[2] estimates it at five per cent. Should pregnancy be allowed to continue Curtis[5] recommends that measures be taken to shorten the second stage of labor or, if indicated, that a Caesarian section be performed before labor has been precipitated.

Lewis[2] has made an extensive study of the cardiac risk in caesarian section or other operative measures. His findings are substantially as follows:

From auricular fibrillation, two per cent. In fibrillation and flutter he recommends preoperative treatment with digitalis.

In the hypertensive cases and those with arteriosclerosis and breathlessness, the cardiac mortality was five per cent.

In uncomplicated mitral stenosis and aortic regurgitation or any other condition in which the patient was able to follow the ordinary daily routine of life, cardiac risk from surgery was negligible. He also suggests that the use of spinal anesthesia because the patient is a heart case, is of doubtful wisdom and feels that in the surgery of these cases the factor of greatest importance is the competence of the anesthetist. He recommends an anesthetic that acts quickly and permits a minimum of struggle and from which the patient will quickly recover. Gas-oxygen seems to be his first choice. Incidently, he seems to favor a light chloroform anesthesia for the second stage of labor for the class of patients under consideration.

De Lee in discussing heart cases recommends that if labor must be interrupted during the first four months that it is best done by packing followed by curettment under morphine and scopolamine or ethylene if necessary. After viability, he recommends the induction of labor by the bag method or a caesarian section. He feels that the latter is gaining in popularity on account of its simplicity, speed, the safety of the child and the opportunity for sterilization should such be indicated. As an anesthetic he recommends ethylene or local. Should acute failure develop during labor he advocates bimanual dilatation, cervical incision or caesarian section.

SUMMARY

(1) The principal conditions that may contraindicate pregnancy are:

- Valvular lesions
  - Mitral stenosis
  - Aortic regurgitation
- Defects of mechanism
  - Auricular fibrillation
  - Auricular flutter
  - Heart block
- Myocardial
  - Functional impairment of the heart beyond the ability to meet the ordinary demands of life.

(2) In the case of a pregnant woman with a damaged heart, the outcome depends largely upon the care given to her circulatory apparatus.

(3) The principal indication for the interruption of pregnancy is progressively failing compensation in spite of all efforts to maintain functional integrity.

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Public Health News

De Lee[3] in discussing heart cases recommends that of the Commonwealth Fund are spending two or three weeks in Mississippi. Miss Randolph has made advisory visits to the counties the Commonwealth Fund is assisting in—Pike and Lauderdale—and will spend some time in the central office of the State Board of Health. Dr. Handley has interviewed a number of physicians who are applicants for Commonwealth Fund fellowships for the 1934 class.

Dr. M. A. Sanchez-Vigil, Inspector-General of Sanitation in Nicaragua, Central America, who has been in Mississippi studying Public Health activities especially laboratory procedures since August 8, leaves on November 15 to enter Johns Hopkins School of Hygiene and Public Health. After he finishes a several months course at Johns Hopkins, he and his wife will spend some time in France and Switzerland before returning to Central America.

From all indications the birth rate in Mississippi will be lower ths year than in recent years. The Bureau of Vital Statistics is very eager to have every physician in Mississippi who attends births to check back and make sure he has registered each birth he attended. This will insure that the birth rate is really lower and not seemingly so because physicians failed to register all births.

A portable X-ray machine has been purchased and will be send out from time to time from the Sanatorium to counties in which there are no X-ray machines. Only those who are sent to the chest clinics by physicians or accompanied by physicians will be examined, and X-rayed. This machine was purchased for the Mississippi State Board of Health by an outside philanthropic agency.

The results of the encephalitis experiment conducted at the Mississippi Penitentiary were entirely negative. The prisoners who volunteered for the tests and who were bitten by mosquitoes who had previously fed on bodies of persons having epidemic encephalitis suffered no ill effects. Governor Conner very promptly released these prisoner-participants from the State Penitentiary.

A similar experiment conducted in the Virginia State Penitentiary has just been concluded with negative results.

The studies in Mississippi and Virginia, in addition to the one in St. Louis and surrounding vicinity, greatly weaken, if they do not entirely disprove the theory of mosquito transmission of encephalitis.

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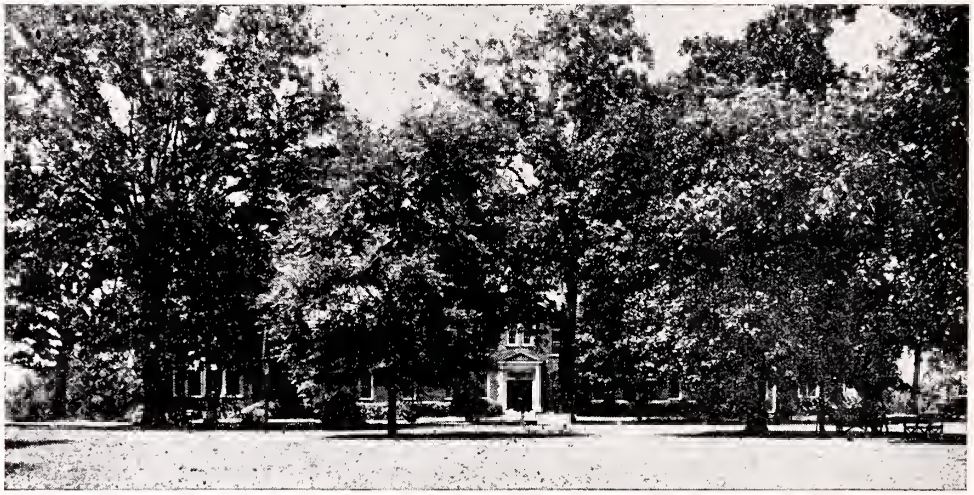

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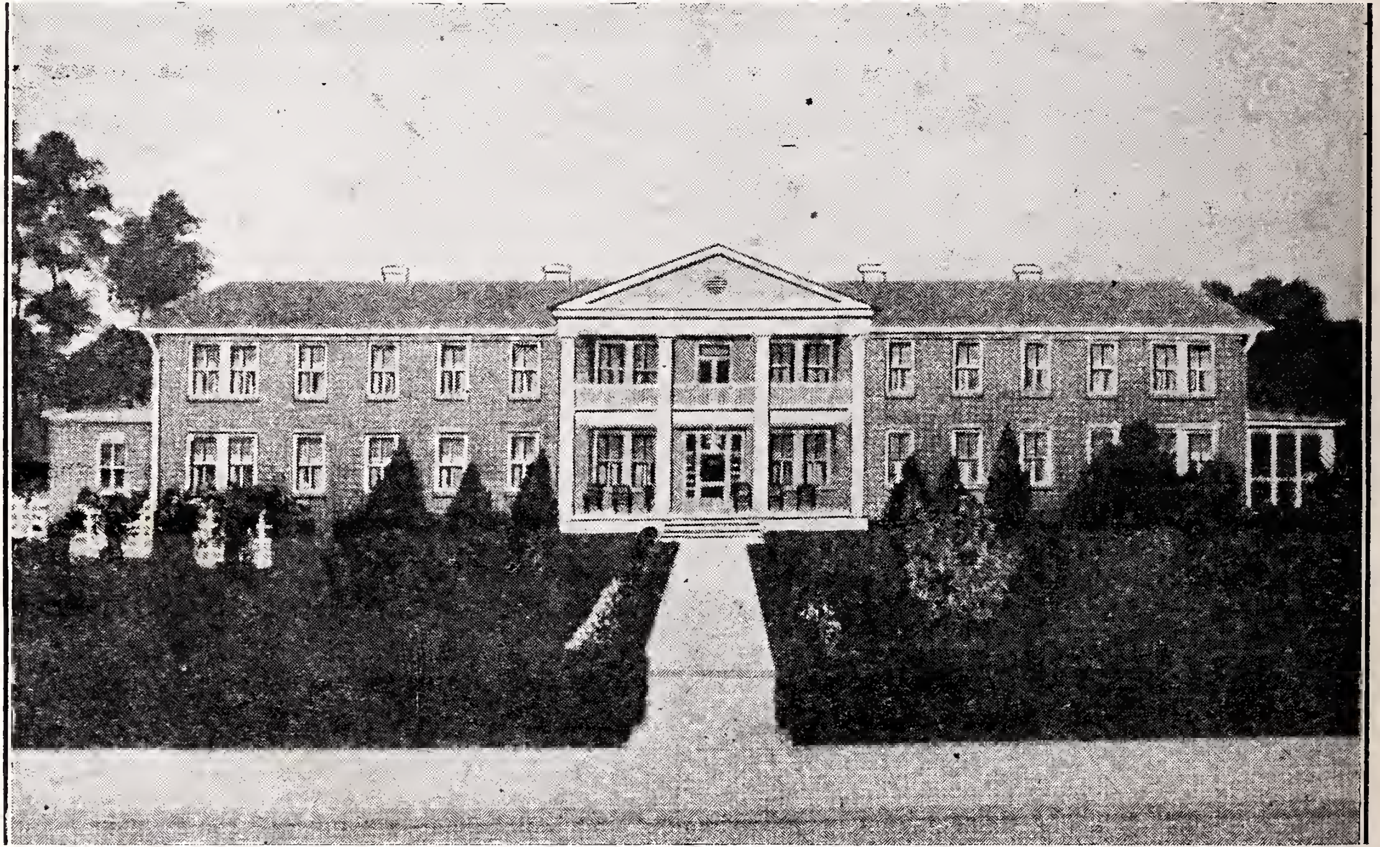

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VOL. 11 BOONEVILLE, MISSISSIPPI, JANUARY, FEBRUARY, 1934 NO. 8

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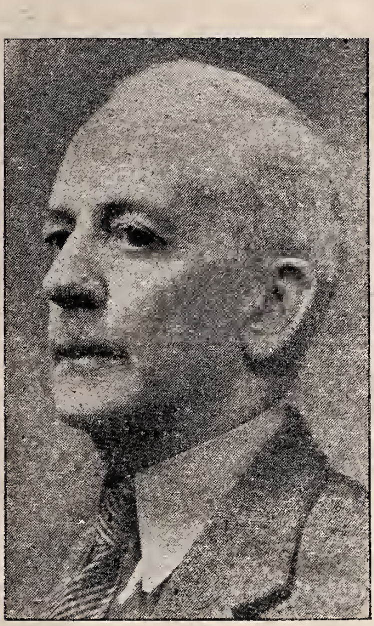
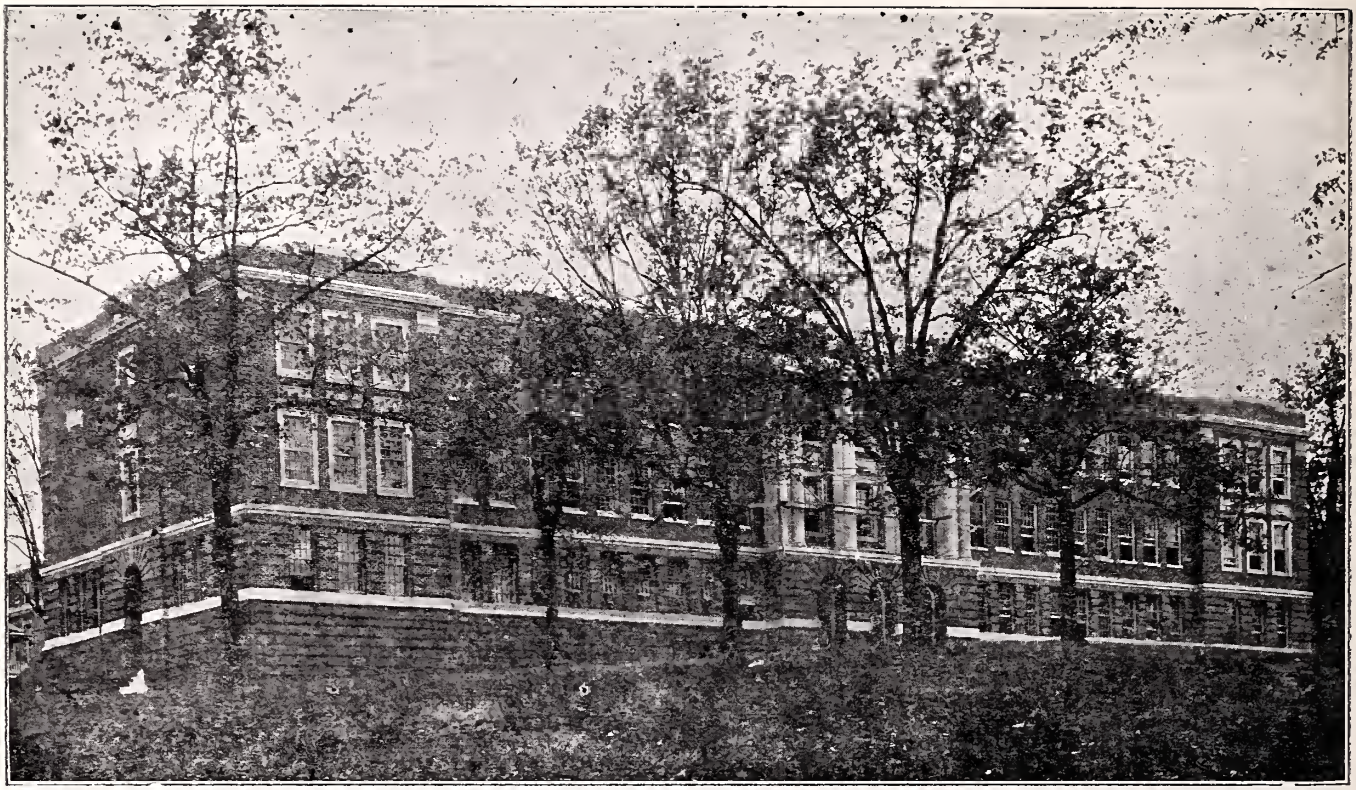


To the memory of Dr. Alexander Brown Dancy, Presdent of the Mid-South Post Graduate Medical Assembly, this issue of The Mississippi Doctor is dedicated. His presence at the meeting will be greatly missed. Sincere grief will be in the heart of every member. He was a friend devoted and loyal to the Mid-South Post Graduate Medical Assembly. He was steadfast and persistent in the promotion of organized medicine. Stately was he in appearance, dignified in manner, quiet and unassuming, well born, carefully reared, broadly educaetd with thorough training in his specialty. Within was a heart sincere devoted to service, a logical brain governed by sound judgment. Active in church, interested in state, and a leader in citizenship. True to himself and to every good cause. With fond memories, with deep regret, we would assign to his soul eternal rest, peace and happiness.



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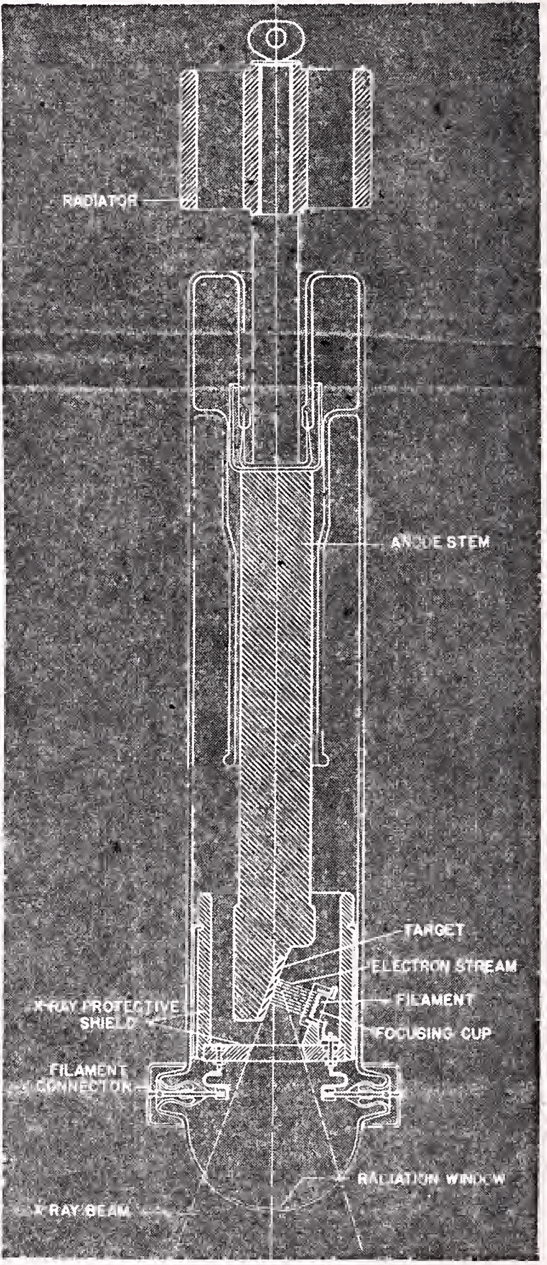

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MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

W. H. ANDERSON, M.D., Editor and Manager
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Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

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MODERN MEDICINE AND THE MASSES

For twenty years there was a rapid influx of population from the country to the village, to the town, to the city. The cities reached the point of saturaion. This is especially true of the medical profession during the period of super specilization. Many of the most substantial replenishing citizenry left the rural community and small town because of inadequate schools and medical service. Education has been carried to the rural communities by way of the consolidated schools and junior colleges. Some cities have one physician to every three hundred population while the rural communities have one to three thousand. The medical profession has reached the high point of specilization. The family physician is to be replaced by broadly educated, specially trained general practitioner. 2, Social and economical conditions are demanding a decentralization of population, of the medical profession in particular. This machine age is demanding more efficient medical service out on the commercial firing lines of civil life. The nations of the earth are becoming sensitive to preventive medicine and preventive surgery. Electricity to the hamlet and rural community is enticing the population back to the soil and to the small town from hence came our strength as a nation.

The outstanding challenge to the medical profession is to deliver modern curative and preventive medicine to the masses at a cost at which it can be utilized. At the same time the general practitioner must have more remuneraion for his services. This may seem contradictory, but it is entirely possible. The increased income to the rank and file of the profession must come from profit on volume of business rather than a big fee from a few cases. The great middle class of population and the majority of the members of the medical profession are in the same plight. The one fortune fees from one man is only to be talked about in the future, never again to be practiced. The rank and file of the medical profession must have special training for his work, a large part of it must be preventive medicine which has been left to the health officers. In the beginning there must be a more equal distribution of the medical profession. The doctor must go where he is needed. The masses can't travel a hundred miles for medical service. It is poor economy for the practitioner to make twenty mile calls, poor for him and ruinous to the patient. The solution is for the medical profession, the general practitioner, and the rank and file of the population to meet in the town of one to ten thousand population. They must meet in the small hospital and the well ordered clinic.

In the small hospital and the well ordered clinic modern medical service may be rendered at less cost to the individual and with more profit to the practitioner. The small hospital is the answer to better medical service in the rural communities. When the community hospital is developed instead of a few medical centers we will have multiplied hundreds in the United States. We can then have an affiliated system as in our schools. Under this system the efficiency of the general practitioner will be multiplied. Under this system post graduate work is a large measure can be carried out to practitioner. The small hospital in turn can be used to educate the people, to teach them preventive medicine and preventive surgery, to develop a people with a greater volume of life. Here co-operative medicine may be practiced. There can be closer co-operation between the doctor, the dentist, the nurse and the pharmacist all of which really make up the medical profession. Here the cause of disease can be studied more closely. The next great step in modern medicine will come from a more systematic study of the human organism in all of his relations to life. This study must be made while the man is in his every day invironment. It must be made over a period of years. So the broadly educated practitioners will become the research men of the future. Through the country weekly newspaper under the direction of the medical center every person in the rural community can be taught better living. There is no time for delay. Our human economy is demanding a forward move. Under this system the national, state, and municipal aid, augmented by church and philanthropy must take care of the actual charity. Some form of insurance must be resorted to for the middle class for hospital expense and doctor's bills. The person who does not get sick must help pay the bill of the one who does. This is the principle upon which health insurance must be founded.

Remember the challenge to the medical profession, "the delivery of modern medicine to the masses at a cost at which it can be utilized." The community hospital is the axle around which the structure must rotate.

People continue to get sick and die of common every day diseases of which malaria is an important one. Malaria is by no means conquered as yet. New treatments have come into vogue this year, Atabrine and Plasmochin and a combination of the two. During the past summer and fall they have been used liberally and fine results have been reported. Quinine is still the treatment of choice in a large per cent of cases. Sulpharsphenamine and Neo-Arsphinamine have been used in conjunction with quinine with very good results. But victory is not yet in sight. We must tighten the lines and use every means available if we are to win over this human malady that caused Rome to fall and ont that continues to cost the Southern states millions in money, in human life, in time and medicine. We may yet have to have new implements of warfare. Last year malaria was by no means confined to the Delta. The hill sections had plenty of it and some in malignant form. It has been suggested by an observing practitioner that living conditions had much to do with this. He suggests a war on the tin can. We are living in the tin can era of American history. Right now they are being tossed out the back door and soon will be set for the summer months as mosquito hatcheries. We must become malaria conscious. Screen, drain, treat carriers and cure the acute cases if possible. The extermination of malaria is the challenge. We must meet it successfully. It will require our most devoted efforts.

Charity funds for the indigent sick in Mississippi should be distributed on a per capita basis throughout the state.

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The Woman's Auxiliary in Mississippi is doing a fine work. The medical profession has had the big end of the depression. It has weighed heavily upon the shoulders of the general practitioner. He has been true, loyal and resourceful. By his side has been his inspirational helper. The practitioner has been inclined to live and labor by his pills alone, but the women see many other angles to the medical profession. They extend the hand of sympathy and realize its benefits. They inspire courage to the heart and give due importance to social and economical adjustments. We appreciate the services of Mrs. Williams of Gulfport.

We are deeply grateful to Mrs. Percy Finlay, Press Representative for the Mid-South for her help and co-operation in gathering material for this issue of the journal. She knows her advertising. She drinks deep of the fountain of culture and refinement and her storehouse of information is all but unlimited and she knows where to find the rest.

You will note a brief review of a number of choice books in this issue of the journal. We have never before reviewed as many useful books in one issue. You need every one of them for your library. "Reading makes a ready man."

Even the small amount the medical profession has received from the government for treating the indigent sick has been a great help and it has been duly appreciated.

The community hospital is the home of the nation, medically speaking. The actual charity asking for admittance must be taken care of by national, state, and municipal aid augmented by church and philanthropy, the middle class will be forced to resort to some form of insurance to pay the hospital and physician, and the rich as usual will take care of themselves.

It is of just as much importance to study the human organism in all of his relations to life, social, economical, and religious, as it is to study the bacteria attacking him. It is fine to know your germs, but you must go one further and know your man, your human organism. Every man has his individuality.

The actual charity of the country must be taken care of by national state, and municipal aid augmented by philanthropy and church. The middle class must look to some form of insurance, the rich can take care of themselves in this world.

We deeply appreciate the editorial symposium by Dr. A. C. Christie of Washington, D. C. He drinks deep of the fountain of scientific medicine. He has a human heart. He possesses a broad vision of service to the people through organized medicine.

It was a delightful meeting down at Houston last week. That hospital staff knows how to entertain. They have the cue. We were glad to have Dr. T. M. Dye at the meeting. When it comes to being a secretary, he is the essence of efficiency.

Dr. Felix J. Underwood is one of the outstanding public health men in the United States. He has had experience as a practitioner also. He would be outstanding as U. S. Surgeon General.

When our community hospital system is developed throughout the land, the services of the really big specialists will be multiplied and dignified. They will come into their own as consultants and teachers.

We appreciate very deeply what Dr. G. S. Bryan has to say about "The Mississippi Doctor." It is exceedingly nice. It is generous, and we thank him for his sincerity.

A sacro-iliac strain is an ailment that the patient usually knows more about than the doctor. Its location is through the equator of the legal battle ground of the human anatomy.

By means of the community hospital modern medicine may be carried out to the front ranks of the commercial firing lines at a reasonable cost.

The North East Mississippi 13 County Medical Society will hold its next meeting at Pontotoc in March. It will be nice to meet in this town.

While hospitals are giving technical training to nurses and interns, it would be well to try teaching them a little economy.

In selecting a medical study, the one with the professional mind, the medical soul and the missionary heart should have precedence.

This is the age of preventive medicine and preventive surgery. The demand is for a more broadly educated profession.

We commend President Franklin D. Roosevelt for his interest in an endowment for Warm Springs. Behind it is a noble purpose.

When it comes to contagious and infectious diseases never have today what you can put off until tomorrow.

In the matter of disease, never have today what you can put off until tomorrow.

There is no one thing common or of small importance in the practice of medicine.

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Joe Johnson of Booneville has invented a sanitary pharmacy slab that is attracting much attention.

Dr. Runyon of Clarksville will preside over the Mid-South. He will do it gracefully and efficiently.

As is a man's glands of internal secretion so is he, so he looks, so he thinks, so he acts.

The Diagnosis of Bronchiectasis—Editorial Symposium

(Editorial by Dr. Arthur C. Christie, Washington, D. C., for The Mississippi Doctor.)

Bronchiectasis, as the name implies, is a disease in which the bronchi are dilated. It is only within the past decade that its frequency and importance have become recognized. Until 1922, when Sicard and Forestier introduced a method by which the bronchial tree could be visualized, it was believed that bronchiectasis was a rare disease. It is now known that it is one of the most common of pulmonary diseases. Even yet a considerable percentage of cases are wrongly diagnosed. Nearly every patient with well-marked symptoms of bronchiectasis, especially if he has had hemoptysis, will have, at one time or another, a diagnosis of tuberculosis. Many such patients have spent long or short periods in tuberculosis sanitariums even though the sputum is persistently negative for tubercle bacilli. It is true that bronchiectasis is sometimes an accompaniment of tuberculosis of the lungs but the type which is now known to be so common is nontuberculous.

In the little over a century which has elapsed since Laennec first described bronchiectasis, many causes have been assigned to the disease. It is now recognized, however, that the majority of cases are due primarily to infections. An inflammation of the bronchi precedes bronchial dilatation in nearly all cases. The disease often follows the acute infections, especially influenza, measles and whooping cough. Infection of the para-nasal sinuses has only recently been recognized as a very common accompaniment, if not a cause of bronchiectasis. Obstruction to a bronchus by a foreign body, a new growth or by pressure is often followed by bronchiectasis but even in such cases it seems likely that infection in a poorly aerated or atelectatic area of lung is the really determining cause of the bronchial dilatation. There are rare cases of bronchiectasis in the fetus and in the new-born which result from developmental cystic changes.

The disease may occur at any age from early infancy through childhood and adolescence to adult life and extreme old age. The dilatations in the bronchi are classified as: (1) cylindrical, (2) fusiform and (3) saccular. The most common type is the cylindrical. It is believed by some that the saccular form is a rare type of congenital origin. The early pathologic changes are those of inflammation of the mucous membrane. The mucosa becomes hypertrophic and in the areas of hypertrophy papillomatous growths may occur, which are very vascular. The inflammatory infiltration extends to the entire wall of the bronchus and finally results in peribronchial infiltration and sclerosis. During this hypertrophic stage of the inflammation there is much purulent secretion and sometimes ulceration of the mucosa from which hemorrhage may occur. If the disease is arrested at this point there is evidence that the bronchial tree may be restored to normal without permanent dilatations. If the disease proceeds to the stage of atrophy not only of the mucous membrane but of the musculature and elastic fibers, as it often does, there is no hope that the diseased bronchi can be restored. The most common cause of the dilatation of the bronchi is the weakening of the walls through destruction of the muscular and elastic fibers; secondary causes are the increased intrabronchial pressure due to obstruction and coughing, removal of the normal support of the bronchi by inflammatory changes in the surrounding lung structure and the traction due to the fibrous changes produced. The disease occurs much more frequently in the lower lobes than in the upper, and considerably oftener in the left lung than in the right.

The diagnosis of bronchiectasis, before bronchography was devised, rested upon a few classical signs and symptoms which are present only in late stages of the disease and are of no value for early diagnosis. If the patient gives a history of paroxysmal coughing attacks when he expectorates large quantities of foul-smelling sputum, the diagnosis of bronchiectasis is usually justified. Such cases must, of course, be carefully studied in order to arrive at a correct picture of the location and extent of the disease; to determine the presence of complications and to differentiate it from abscess of the lung and other chronic suppurative conditions. A not uncommon accompaniment of long-standing bronchiectasis is pulmonary osteoarthropathy, the most marked sign of which is clubbing of the fingers.

The symptoms which will lead one to suspect the presence of bronchiectasis in its early stages are readily overlooked. The only symptom complained of may be a persistent and somewhat annoying cough with the production of only a small amount of mucoid sputum or of no sputum at all. When such a patient finds the cough annoying enough to consult a doctor he should not be put off with a casual examination or prescription of an expectorant. There are usually no physical signs in such patients of any value what ever. Another symptom, which in some cases is the only one present, is hemoptysis. There may be a history of blood-tinged sputum extending over a period of several years, rarely of severe hemorrhages. Such patients are fortunate if they escape a diagnosis of pulmonary tuberculosis and months or years in a sanitarium. This question of hemoptysis in bronchiectasis only when there is positive evidence of its presence entirely aside from the hemorrhage.

Ochsner writes of the early diagnosis of bronchiectasis as follows: "Hemoptysis is a frequently encountered symptom, being present in from 50 to 70 per cent of cases. Seldom is bleeding severe; very frequently, however, a tinging of the sputum with blood is noted. Clubbing of the fingers is present only in advanced cases and those in which the condition has existed for a long period of time. Except in advanced cases, the patient feels well, aside from some slight lassitude. They often complain of not having the amount of energy which they usually have, although they are able to perform their work comparatively well. Because of rather vague, indefinite symptoms, these individuals are often branded as neurotics." (The article of Ochsner from which the above is a quotation is a very complete consideration of bronchiectasis and is followed by an exhaustive list of references to articles on the subject. It will be found in the American Journal of Medical Sciences, Vol. 179, 1930.)

I have tried to emphasize the fact that a physician must always be keenly alert to recognize the possibility of the presence of bronchiectasis from very mild and seemingly inconsequential symptoms. The only clue to the cause of a persistent cough may be found in the history of an infection which the patient remembers only after questioning. The presence of chronic sinus disease should direct one's attention to the possibility of an accompanying bronchiectasis. A not uncommon history is of recurring attacks of fever. The disease not infrequently produces inflammatory changes in the surrounding lung and the patient may say that he has had several attacks of pneumonia or pleurisy.

When the disease is once suspected we have means by which a definite diagnosis may be made. In advanced cases with multiple dilatations and peri-bronchial thickening a simple x-ray examination with good films will serve to establish the diagnosis. It was not, however, until 1922 when Sicard and Forestier introduced lipiodol that diagnosis in early cases became exact. "Lipiodol is a compound of iodine and poppyseed oil, containing 40 per cent of iodine by weight." It is a true chemical compound obtained by utilizing the ability of an unsaturated fat to fix iodine to its molecules. Typical unsaturated oils are essentially the glycerides of stearic, oleic, palmitic and linolic acids. Some other compounds containing chlorine as well as iodine are in common use. Iodipin, a German preparation, is one of these, and iodochlorol, made in this country, is another. Most of my own work has been done with lipiodol and I have found it a very satisfactory product. The essential point for diagnostic work is that the iodine renders the oil opaque to the x-ray and permits us to visualize the tracheo-bronchial tree. The method is called bronchography and is now considered an essential procedure in the diagnosis of bronchiectasis. It is absolutely necessary for diagnosis of the early cases and even in advanced cases it serves to clear up the extent and exact location of the disease and offers great assistance in differential diagnosis. It is especially important to make a diagnosis in the early stages of bronchiectasis, and for this purpose bronchography is invaluable. The method has come into common use only slowly because of the supposed difficulties of administration of the oil. As long as it was considered necessary to inject the oil through a bronchoscope the method was used in only a small percentage of cases. Since the supraglottic or "passive" method of injection has become popular, bronchography has become much more widely used. This method requires no special skill and causes the patient little or no discomfort. Its complete success requires the confidence and cooperation of the patient and the anesthetization of the anterior pillars of the fauces, the vestibule of the larynx and the tracheo-bronchial mucosa. This is obtained by swabbing the throat with a 2 per cent solution of cocaine and the use of a 2 per cent spray of cocaine or 3 per cent spray of novocaine while the patient inhales deeply. The best results are obtained if the spraying and swabbing is carried out at five minute intervals for a period of half an hour. We have never had any reactions from the cocaine by this method and the results are undoubtedly more satisfactory than anesthetization secured by stronger solutions over a shorter period. The anesthetization accomplishes several objects. The first is to abolish sensation in the throat so that injection may be made without gagging; the second is to abolish the swallowing reflex which normally causes the larynx to ascend and automatically close the laryngeal opening; the third is to abolish the cough reflex so that the lipiodol will remain in the tracheo-bronchial tree instead of being forced out into the alveoli. All of these objects are accomplished by the method of anesthetization described. When anesthetization is complete the patient stands on the step of a fluroscope and the lipiodol, slightly warmed, is dropped on the base of the tongue, very slowly by means of a syringe and curved cannula while the tongue is drawn forward by the patient or the operator and the patient breathes deeply. About 20 c.c. of the lipiodol is used for any particular part of the tracheo-bronchial tree. The essential points in this method are as follows: (1) The patient must be tranquil and cooperative; (2) The anesthesia must be sufficient to prevent swallowing and coughing; (3) The injection must be done slowly; (4) The tongue must be held retracted from the mouth while the lipiodol runs into the larynx. While the lipiodol is entering the bronchial tree the operator observes it on the fluroscope, the patient being inclined toward the side that it is intended to fill. By rotating the patient to prevent deception from superimposition of the shadows of the radiating bronchi the bronchiectatic dilatations may be directly observed upon the fluroscopic screen. This method is most applicable to the lower lobes but filling of the upper lobe bronchi may be obtained by tilting the fluroscope so that the patient's head is lower than the pelvis, after the lipiodol has entered the main bronchus. This "passive" method is applicable in nearly all cases but occasionally there is difficulty in securing the entry of the lipiodol into the larynx. In such cases the intratracheal method is used. This differs from the "passive" method only in the actual injection. Anesthesia is carried out as before but the injection is made through a long curved cannula between the vocal cords under direct observation in a laryngeal mirror.

I have considered the method somewhat in detail because the diagnosis and to some extent the treatment of bronchiectasis depends upon the success of bronchography.

Another method must be used in children and in patients who cannot cooperate. Injection of the lipiodol through the cricothyroid membrane is then the method of choice. It is known as the subglottic or transcutaneous method. To carry it out the skin is anesthetized and the needle is pushed directly through the skin and cricothyroid membrane into the trachea. Four or five c.c. of a 4 per cent solution of novocaine is then injected into the trachea and in a few minutes the reflexes are abolished so that the lipiodol may be injected. We have used this method in a considerable number of patients but there are objections to its use as a routine measure. Whenever practicable we prefer the "passive" method previously described.

The bronchographic findings in bronchiectasis are striking and conclusive. The dilatations of the bronchi, usually cylindrical or fusiform in shape, are unmistakeably shown. Only recently the method has served to clear up the nature of certain triangular basal shadows. These shadows are seen occupying the angle formed by the heart and diaphragm on either side. Singer and Graham in 1926 identified them as areas of atelectatic lung. It is now well established that this triangular basal shadow usually represents an entire lower lobe which is atelectatic and within which there are bronchiectatic dilatations.

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Bundle Branch Block

REPORT OF TWENTY CASES

BY HENRY B. GOTTEN, M.D., and
OTIS S. WARR, M.D., F.A.C.P.
Memphis, Tenn.

This paper is a review and summary of twenty cases of bundle branch block observed in the Polyclinic over a period of several years. More recent cases are not included.

Bundle branch block, or intraventricular block, is the term applied to a condition characterized by a defective conduction of the excitation wave through the auriculoventricular conduction system below the main bundle. This abnormal conduction may occur in any degree in either of the main branches, but a large area of the bundle must be involved before the condition will be reflected in the electrocardiograph tracing. The defect is shown on the electrocardiogram by a deviation of the QRS complex from the normal and a variation in the direction of the T wave. The QRS complex is notched and widened, so that more than 0.1 second is required for the deflection to be registered. Lesser degrees of block may be shown by slurring or slight widening of the QRS complex. The T wave is opposite the QRS.

Recent studies on the human heart have revealed that the tracings formerly thought to be caused by left bundle branch block were in reality caused by rightblock, and vice versa.

White* believes the block is seen more often on the left than on the right because of the more frequent occurrence of sclerosis of the descending branch of the left coronary artery. Of our series of cases, the left bundle branch was involved in 18 and the right in 2, being a ration of 9:1.

Bundle branch block occurs more frequently in men than in women, and usually in the later decades of life. Of the 20 cases reported here, 14 of the patients were men and 6 were women. The average age was 59.2 years, the youngest 41 and the oldest 74 at the time of examination.

The most common cause of bundle branch block is coronary sclerosis, which results in poor circulation and nutrition, with eventual damage to the bundle branches. Coronary thrombosis is also a possible factor. However, no history of coronary thrombosis was obtained in any of the cases of this group. Other causes are syphilitic infection, rheumatic disease, cardiac fatigue from a rapid heart, as in toxic conditions, chronic infections, or poisoning from digitalis and other drugs. In some cases the cause is apparently functional or transient.

Practically the only pathologic change observed in known cases of intraventricular block is a marked fibrosis of the coronary vessel and heart muscle. As expected no change is found in cases of toxic origin, or those caused by drug poisoning or fatigue from tachycardia.

An analysis of the symptoms elicited in the 20 cases, in order of their incidence, follows:

Dyspnoea	in 15 cases
Anginal Attacks	in 8 cases
Irregular heart action and tachyhcardia	in 8 cases
Pain	in 7 cases
A sensation of constriction in the chest	in 6 cases
Fatigue	in 4 cases
Rapid pulse	in 4 cases
Edema	in 2 cases
Cough	in 1 case

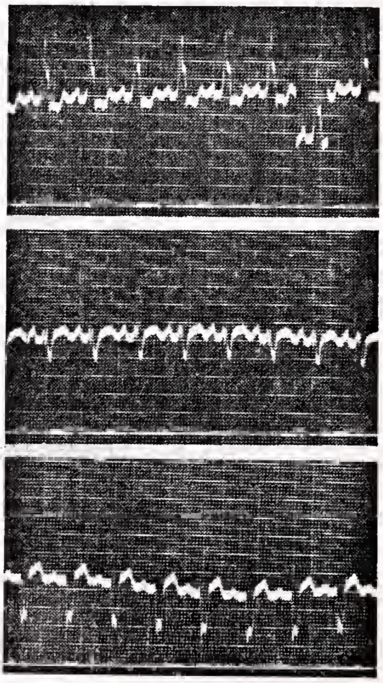
None of these patients gave a history of previous attacks of coronary thrombosis.

The physical findings, in the order of their incidence, were

Enlarged heart	in 12 cases
Poor heart tone	in 6 cases
Gallop rhythm	in 5 cases
Irregular heart action and premature contraction	in 4 cases
Cardiac murmur	in 4 cases
No positive physical signs noted	in 5 cases

The duration of symptoms could not be determined accurately. Symptoms were entirely absent in some patients, whereas in others they had been present from one month to two years.

The diagnosis can be confirmed only by the use of the electrocardiograph, but in some cases it may be anticipated. When the patient complains of marked dyspnea, rapid pulse, and attacks of pain on exertion, and the examination reveals a rapid pulse, with visible or palpable reduplication of the apex thrust, and a splitting of the first heart sounds, a diagnosis of intraventricular block is suggested. In two cases of this group a clinical diagnosis of bundle branch block a clinical diagnosis of bundle branch block was borne out by the electrocardiograph.



1. Left bundle branch block. Note notching and widening of QRS complex and T wave opposite QRS in all three leads.

The complications associated with bundle branch block vary, as one would expect, according to the ages of patients. A hypertension of over 150 mm of mercury was found in 7 of our cases. Chronic cholecystitis was a diagnosis in 4, prostatic disease in 3, diabetes, duodenal ulcer, chronic nephritis, and tuberculosis in one each. Five were uncomplicated. The complications when analyzed, will explain partially the existence of bundle branch block in several cases, as, for example, the longstanding infection associated with prostatic disease in two.

---

*White, D. M.: Heart Disease, The MacMillian Company, New York, 1931.

The prognosis as to duration of life is variable; it depends on the cause of the disease and whether or not the circulation is impaired. One patient of this series had had cardiac symptoms for 9 years and had lived 5 years since the diagnosis of bundle branch block. Three others are living 4½ years after the diagnosis. Of the entire series, 11 are now dead and 9 are living. The average span of life of those who died was 21.3 months from the date of the diagnosis. The remaining patients have lived an average of 29 months since the diagnosis of cardiac disease and 39 months since the onset of symptoms, although several are practically bedridden and the prognosis is hopeless.

The following case illustrates the development of a typical case of bundle branch block, probably caused by coronary sclerosis.

Case 1. Dr. N. L. N., aged 45, was first seen on May 5th, 1929. During the previous two months he had noticed a general weakness, a slowing of his pulse, and increase of blood pressure. He had had no pain, dyspnoea, or cough.

On examination, his blood pressure was found to be 180/100. His heart was enlarged, the right side being 6 cm. and the left 12 cm. The aorta was 3.4 cm. An electrocardiogram showed an arborization block, which was almost a left bundle branch block, with inverted T wave in lead 1 and a ventricular preponderance on the left.

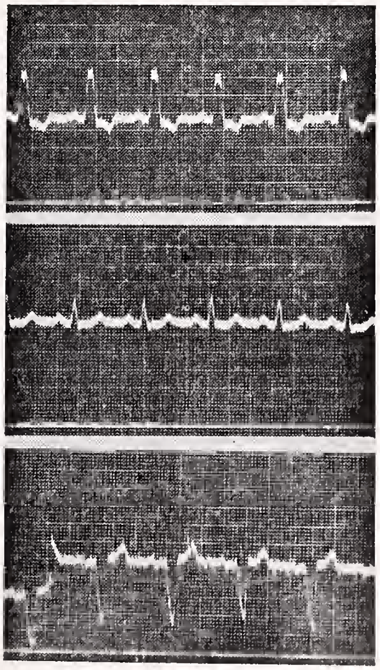


FIG. 2. Left bundle branch block. The tracing later became normal.

By July, 1929, his heart action had become somewhat irregular. The electrocardiogram showed the arborization block to be persisting, with a left ventricular preponderance and an inversion of the T waves in leads 1 and 2. In August, 1929, he had a severe attack of precordial pain with a sense of tightness in the chest, and was conscious of dyspnoea on exertion. An electrocardiographic tracing made on April 21, 1930, showed a left bundle branch block. Since that time he has had to remain in bed at intervals on account of dyspnoea. An electrocardiogram made in February, 1931, showed a persistence of the left block. At present his general condition is considered fair.

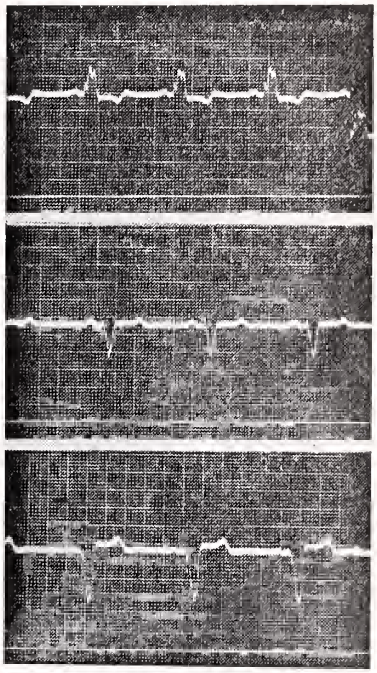


FIG. 3. Another typical tracing of left bundle branch block.

Another case of bundle branch block, also apparently from coronary disease, is described below.

Case 2. Mr. R. L. C., a merchant, aged 45, was first examined on March 2, 1923. He complained of a sensation of tightness in his chest of four weeks' duration, with shooting pains down his left arm, and an occasional cough.

His blood pressure was 170/125, pulse 100, and weight 235 pounds. The heart tones were very poor, with a suggestion of a galloping rhythm and a soft systolic murmur at the base. At that time our diagnosis was chronic myocarditis.

The patient was seen at intervals. In February, 1928, an electrocardiogram showed a left bundle branch block with tachycardia. The pain had continued and he suffered from severe dyspnoea on the least exertion. His blood pressure was 150/120. The right heart measured 7 cm. and the left 11.5 cm. He is still living but completely disabled and practically bedridden.

In the next case the bundle branch block cleared up.

Case 3. Mrs. W. C. L., aged 42, was first seen in November, 1926. She stated that for three years she had had dyspnoea following the least exertion. She also complained of a mild edema and was often conscious of an extreme tenderness in the chest and palpitation of the heart.

Physical examination was essentially negative except for a slight systolic murmur at the apex of the heart. Her blood pressure was 180/80, and pulse 80. The electrocardiogram showed a first stage heart block, the conduction being interrupted over the right bundle branch.

An electrocardiogram made in 1929 showed only a left ventricular preponderance, the block having cleared up. The heart measurements were: right, 3.5 cm., left, 11.5 cm., and aorta, 5 cm.

A recent letter advises that the patient's condition is fair. Her blood pressure is now 190/110 and the electrocardiogram shows only a right axis deviation. At the present time she is practically free of symptoms.

The fourth case is one of bundle branch block caused by chronic infection from an enlarged prostate and urinary retention. After the infection was eliminated the patient's general condition improved and the block cleared up.

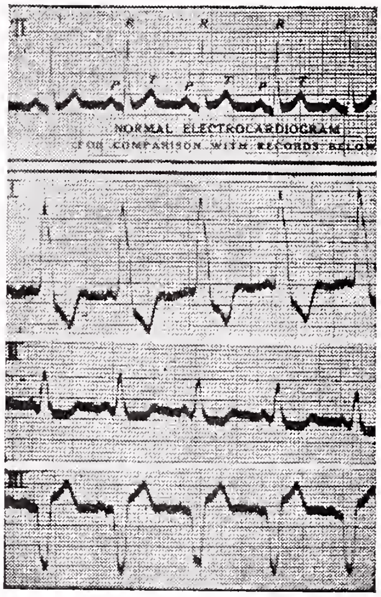


FIG. 4. Another typical tracing of left bundle branch block.

Case 4. Mr. E. L. B., aged 70, a lumberman, was first examined in April, 1925, because of prostatic infection. He was treated at intervals until January, 1929, when it became necessary to remove the prostate. An electrocardiogram taken at that time showed a right bundle branch block. His blood pressure was 170/90, and his general condition was regarded as fair.

After the prostatectomy his recovery was prompt and without complications. His improvement has continued and apparently he is now in excellent health. The last electrocardiogram, made in May, 1930, showed that the right bundle branch block had cleared up, although a marked inversion of the T wave in the second and third leads persisted.

Program for the Mid-South Post Graduate Medical Assembly

Tuesday, February 13th

10:00 A. M.

Chronic Urinary Infections in Infants and Children—Dr. M. F. Campbell, Instructor of Urology, New York University Med. School, New York, N. Y.

11:00 A. M.

The Management of the Tuberculous Patient—Dr. F. M. Pottenger, Professor of Medicine, Univ. Southern California, Monrovia, Calif.

12:15 P. M.

Round Table Luncheons.
Review Exhibits.

2:00 P. M.

The Treatment of Diabetes Mellitus—Dr. Elliott P. Joslin, Professor of Med., Harvard Med. School, Boston, Mass.

3:00 P. M.

Intracranial Injuries of the Fetus—Dr. Fred L. Adair, Professor Obst., and Gyn., Univ. of Chicago, Chicago, Ill.

4:00 P. M.

Radiation and Surgery in Cancer of the Head and Neck—Dr. Douglas Quick, New York, N. Y.

7:00 P. M.

Review Exhibits.

8:00 P. M.

Bright's Disease—Present Day Conception and Management—Dr. H. O. Mosenthal, Dir. Dep't. Med., New York Post-Grad. Med. School and Hospital, New York, N. Y.

9:00 P. M.

Mortality Factors in Acute Appendicitis—Dr. Frederick A. Coller, Ass't. Professor of Surgery, Univ. of Mich., Ann Arbor, Mich.

Wednesday, February 14th.

9:00 A. M.

Some Observations on the Treatment of Empyema in Children—Dr. Joseph Brennemann, Chief Children's Memorial Hospital, Chicago, Ill.

10:00 A. M.

Dr. John A. Killian.

11:00 A. M.

The Relation of Functional and Organic Derangements of the Pituitary Gland to Menstrual Disorders—Dr. Charles Mazer, Ass't. Professor Gyn. and Obst., Univ. of Penn., Philadelphia, Pa.

12:15 P. M.

Round Table Luncheons.
Review Exhibits.

1:30 P. M.

Business Session.

2:00 P. M.

Diabetes Mellitus—Significance and Control of Sugar in Blood and Urine—Dr. H. O. Mosenthal, Dir. Dep't. Med., New York Post-Grad. Med. School and Hospital, New York, N. Y.

3:00 P. M.

Diverticulosis and Diverticulitis—Dr. J. M. T. Finney, Professor Clin. Surg., John Hopkins Univ., Baltimore, Md.

4:00 P. M.

The Evaluation of the More Recent Methods of Treatment of Tuberculosis—Dr. F. M. Pottenger, Clin.

Professor Med., Univ. Southern Calif., Monrovia, Calif.

7:00 P. M.

A Stag Buffet Supper.

8:00 P. M.

President's Address.

Thursday, February 15th.

9:00 A. M.

Acute Suppurations of the Houth, Pharynx and Cervical Regions—Dr. A. M. Furstenberg, Professor of Otolaryngology, Univ. Mich., Ann Arbor, Mich.

10:00 A. M.

Some Common Errors in the Diagnosis and Treatment of Children—Dr. Alan Brown, Professor Diseases of Children, Univ. Toronto, Toronto, Can.

11:00 A. M.

Simplificatin of Obstetrical Care—Dr. E. D. Plass, Professor Obst. and Gyn., State Univ. Iowa, Iowa City, Iowa.

12:15 P. M.

Round Table Luncheons.
Review Exhibits.

1:30 P. M.

Business Session.

2:00 P. M.

The Significance of Spastic Paraplegias in General Practice—Dr. Geo. B. Hassin, Professor Neur., Univ. Illinois, Chicago, Ill.

3:00 P. M.

Rheumatic Fever Considered as a Specific Infectious Disease—Dr. J. C. Meakins, Professor Med., McGill Univ., Montreal, Can.

4:00 P. M.

The Diagnosis and Treatment of Female Sterility—Dr. Chas. Mazer, Ass't. Prof. Gyn. and Obst., Univ. Penn., Philadelphia, Pa.

7:00 P. M.

Review Exhibits.

Friday, February 16th.

9:00 A. M.

Physical Therapy in Chronic Arthritis—Dr. John S. Coulter, Chicago, Ill.

10:00 A. M.

Bronchiectasis: Its Early Diagnosis and Treatment—Dr. John C. Meakins, Professor Med., McGill Univ., Montreal, Can.

11:00 A. M.

Gestational Polyneuritis—Dr. E. D. Plass, Professor Obst. and Gyn., State Univ. Iowa, Iowa City, Iowa.

12:15 P. M.

Round Table Luncheons.
Review Exhibits.

2:00 P. M.

Certain Phases of Biliary Tract Disease—Dr. Geo. P. Muller, Professor Clin. Surg., Univ. Penn., Philadelphia, Pa.

3:00 P. M.

Clinical Hypothyroidism—Dr. O. P. Kimball, Cleveland, Ohio.

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Book Review

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Letter to the Editor

Dr. W. H. Anderson
Booneville, Miss.

My Dear Dr. Anderson:

Information has reached me that you propose to dedicate the February number of your journal to the ensuing meeting of The Mid-South Post-Graduate Assembly. This information brings three correlated chains of thought into my mind. The first bears specially on the old Tri-States Medical Society, out of which and from which sprang The Mid-South Post-Graduate Assembly. I am reminded that the first medical society I ever attended was this old society. It was while I was an undergraduate medical student. I remember that I was filled and thrilled with admiration for the leaders in the discussions during this meeting. Most, or all, of them are long since dead. But their works, example and influence live on and will continue to live for many years, I hope. I am sure that ambitions and aspirations were born in my breast and brain at that time that have followed ME through a lengthening number of years. For quite a few years I attended the annual meeting of that old society and derived much benefit and great pleasure from it. But with changing conditions that follow the passing of men and time, demand for a change of plans and program, arose. While it is of no importance and, possibly, may not be remembered I introduced the resolution that changed the name and widened the scope of usefulness and interest of the society. But to others belongs the credit for the idea of this change. In my judgment no other society in the south provides just the kind of teaching that may be had in this new society. The programs are marvelous and too much praise can not be paid to the committee that arranges them. This society is just what its name implies, a Post-Graduate Assembly where none but national celebrities are asked to contribute.

The second of the trio of correlated thoughts bears upon another society, that in my thinking and affection is second to none in all the land. Of course, I am thinking and refering to The North East Mississippi Thirteen Counties Society. The nucleus for this society was brought into being in 1903, when the Monroe County Medical Society was organized. This society was a component society of Mississippi State Medical Association. After three years this component society proposed to three other county societies, namely, Chickasaw, Lee and Itawamba counties, that they combine and become a four counties society. This they did and very soon other counties began to petition for admission into the family of county societies. When thirteen counties were combined, we decided that there was magic in this number and closed the door to all others. Of course we loved our state society too well to wish to eclipse her star of renown. We, the members of this district society are proud to the point of vanity of our organization and its record.

Now let me invite the attention of your readers to the third object of this galaxy of splendid forces—namely, **The Mississippi Doctor.** This wonderful little journal is the connecting link that binds these three chains of thought mentioned in the beginning of this communication. This journal was started about twelve years ago. It was first published by the Houston Hospital and was issued as a bulletin for publication of the activities of this splendid hospital. But ten years ago it was given by its promulgators, to North East Mississippi Thirteen Counties Society and immediately became the official organ for this great society. Our society wisely and unanimously elected Dr. W. H. Anderson to be its editor-in-chief. Dr. Anderson has labored in season and out of season, often under the most adverse and discouraging conditions, not for his own glory, but for the welfare and promotion of organized medicine and the promulgation of scientific medical teaching. How well and successfully he has wrought, it is hard to believe or understand. The ethical standards of this brilliant editor and his splendid publication have never been questioned. The columns of this journal carry, only, up to date, medical articles. Leading men in the profession, in many states, seem glad to contribute to its columns. Its editorial columns are filled with pertinent comment on the questions of most vital interest to its readers and the upbuilding of medical thought in general. Its editor is fearless in his condemnation of what he thinks wrong and lavish in praise of what he thinks is right. He has waged a tireless fight for the establishment of the community hospital in lieu of large state-owned charity hospitals. As an evidence of the esteem in which both the journal and its editor are held, the North Mississippi Six Counties Society adopted the journal as their official organ some two years ago. At its last meeting the Mid-South Post Graduate Assembly did the same wise thing. I venture, now, to predict that other societies in Mississippi will soon follow suit. It is, also, freely predicted that the Mississippi State Medical Association will soon do likewise. It has not been long since one of the best known medical writers in the nation, one who lives far from Mississippi centers of influence, writing of this journal said that he knew no other small journal that was doing so much for the advancement of medicine as was this journal.

Mr. Editor, I hope you are not so modest that you will refuse to carry in your columns the small meed of praise and commendation that I am offering from my heart. Not that your journal needs it but that I feel I have expressed, but feebly, the sentiments of your constant readers and more especially of the members of The North East Thirteen Counties Society, for which society you and your journal have done so much.

Yours very sincerely,
G. S. BRYAN

Two Delta Medical Societies are Merged

At a meeting of the committee representing The Clarksdale and Six County Medical Society and The Delta Medical Society held in the office of Dr. E. R. Nobles on December 7th, plans were formulated and adopted for the consolidation of these two societies which comprise all the counties in the delta with the exception of Issaquena and Sharkey. The new society will be known as The Delta Medical Society with a potential membership of over 250 physicians, making it the largest district society in the state.

It was agreed that there would be three meetings a year rotating with Clarksdale, Greenville and Greenwood.

Present at this coalition meeting and representing the Clarksdale and Six County Society were Dr. T. M. Dye, Secretary Mississippi State Medical Association, and Dr. Leon Brevard, President of the Clarksdale and Six County. The Delta Medical Society was represented by Dr. E. R. Nobles, Vice President Mississippi State Medical Association and Dr. F. M. Acree, Secretary of The Delta.

Also present as guests were Dr. R. C. Smith, President of The Delta Society and Dr. J. W. Lucas Councilor for this District.—Bolivar Commercial.

The milk, water, and food supplies in Mississippi are supervised carefully and there has been no epidemic in the past twenty years in this State directly traceable to an impure water, milk, or food supply. All public milk supplies in Mississippi are protected through the enforcement of the Standard Milk Ordinance.

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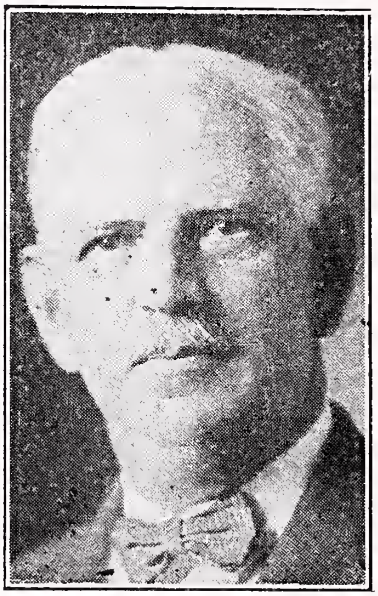
To the Members of the Mississippi State Medical Association



PRESIDENT J. W. D. DICKS
Natchez, Miss.

The dawn of the New Year is here. Let us hope that the New Year will bring a large measure of relief from the many difficulties that have beset our people during the year that is past.

We are today living in perhaps the most momentous period of our history. The economic principles that have guided us in the past are no longer capable of controlling the economic conditions that have arisen today. The signs of the times indicate a definite trend among our people toward some form of socialism —witness the New Deal of which we have seen and heard so much during recent months. The government has extended into all classes of business in our land and is today actively participating in the management of every business in our country. There is no reason to think that this activity of the government will not in the future be extended into the professions as well.

The economic structure is in process of reconstruction to meet present day conditions. All classes of citizens are affected both directly and indirectly by this process of evolution in the economic world. We of the medical profession cannot expect to adapt ourselves to these changed conditions. This does not mean that we shall have to surrender any of the high ideals that have governed the conduct of the profession during ages past. We can and should adapt these high principles to the social order that is in process of formation.

No longer does the medical profession occupy the commanding position in the affection of the laity that it at one time possessed. The increased cost of medical care brought about by the advance in our knowledge of the science of medicine has created in the minds of the laity an unreasonable spirit of suspicion and antagonism toward the medical profession. The tendency to specialization in the medical profession, the various diagnostic aids such as laboratory, both clinical and x-ray, and hospitalization of the sick have all contributed to increase the cost of medical care. The very rich can afford it and the very poor have it furnished gratis, but the vast majority of our citizens, the great middle class, cannot obtain it. This situation cannot continue without serious consequences to the medical profession. Some form of state medicine with all of its attendant evils will surely follow unless the problem is solved satisfactorily.

The medical problem must take and hold the lead in all matters pertaining to the healing art. We cannot afford to allow this lead in matters medical to pass to the laity. If we shirk this responsibility the consequences will be disastrous to both the public and our profession. In order that we may direct the public in matters pertaining to the practice of medicine we must be prepared to offer a satisfactory solution of the problems affecting medical economics. To solve these problems we must do constructive work; holding meetings and passing resolutions condemning this or that plan without offering a worthwhile substitute will not accomplish anything. The public demands action and we must be prepared to meet their demands. The economic situation in all of its phases must receive our careful attention.

What is our best campaign in order to solve the problems before us? Should we act as individuals, or should we organize a united profession, acting together for the common good? The question can have only one answer—organize a strong militant organization, capable of safeguarding the interests of the individual physician and preserving unchanged the high ideals of the profession.

I believe we can improve our system of organization in Mississippi. The study of the membership statistics shows in the five single county societies a percentage of seventy-seven plus against a percentage of only fifty-five plus in our component societies.

Some years ago we departed from our constitutional form of organization, the county medical society, and formed several splendid component medical societies composed of several counties. These societies have made splendid records and I would not in any way interfere with them, but think they should be continued as district societies whose function should be to present instructive and interesting professional programs. I think the district societies have a definite and useful place in our plan of organization and can be maintained without dues, the expense of meetings being prorated among the county societies in the district. We have a plan of this kind in the Eighth Councilor's District and it has worked very well.

The county medical society should be the foundation of our State Medical Association. The county society would tend to bring the physicians of the county in close touch with one another. These societies should direct the profession in all matters of a professional or economic nature. The dues to the State Medical Association should come through these county societies. We have five single county societies; two of these societies have a hundred per cent membership. One, Pike, when a member of a component society only had a fifty per cent membership but when the physicians formed a county society the membership went to one hundred percent and has remained there since.

The average busy physician will not go a long way to attend a medical society meeting. If the place of meeting is close home and the meetings held monthly, the physician is more inclined to join and attend regularly. Round table discussion of clinical cases rather than didactic papers will arouse the interest of the members. A discussion of the economic problems that are confronting the profession in the county should have a definite and important place on all programs. The day is past when we can afford to ignore the material side of medicine.

The question of the organization of county medical societies should have our careful consideration. The plan is offered in a sincere desire to strengthen organized medicine in the state. There are only an exceedingly few counties in the state where the numbe of physicians in the county is too small to form a county society. In these counties the physicians can be taken care of in the societies of adjoining counties.

The membership campaign inaugurated last summer under the direction of Dr. E. C. Parker, president-elect, and the vice-presidents, has made very good progress and I trust during this year will be pushed to a successful culmination before the time of the meeting of the State Association in May. The importance of this drive for members cannot be overestimated. We should endeavor to bring every eligible physician in Mississippi into organized medicine. We cannot speak authoritatively for the profession in our state unless we can show at least eighty per cent of the physicians are enrolled in organized medicine.

I wish to thank our members for the whole-hearted and cordial support they have extended in our efforts to build up a strong organization and wish for each and everyone the largest possible measure of happiness and success during the New Year 1934.

FOR SALE—Guinea Pigs, all sizes, prices reasonable, prompt shipments. Write Mrs. Fannie G. Green, Booneville, Miss.

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Memphis, Tennessee

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor
Gulfport, Mississippi

CHIEF PURPOSE OF A MEDICAL AUXILIARY

We still have, among both our doctors and their wives, a few doubting Thomases as to the chief purpose of the Medical Auxiliary. Let me tell you in a few direct words—"To be of service to the doctors and be ready to respond to any call made by the Medical profession."

Allow me also to quote Dr. Henry W. Salus as to what he considers the worth of such an organization. First, "The Auxiliary has added polish and refinement to these gatherings," meaning medical societies. Second, "It has permitted the woman to become an integral part of the life of the man, socially, professionally, and commercially." Third, "It has stimulated the medical society not to be outdone in thought and activity."

Please, husbands, who are having the privilege of reading this "Mid-South" issue, take it home and if your wife is not a member of a medical auxiliary convince her of its possibilities. If she is already a member I feel sure it will spur her on to helping increase our membership. The Woman's Auxiliary to the Mississippi State Medical Association sends greetings to its sister states.

TO THE MEMBERS OF THE WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

The old saying that man cannot live without woman is well exemplified in organized medicine.

For many years we doctors tried to get along in our organziation without aid from our wives but the light finally dawned on us that if we wished to make a success of our organization we must have the active support of our wives.

The result of this awakening on our part was the birth of the Woman's Auxiliary to the Mississippi State Medical Association some years past.

The Auxiliary fills a very important place in our plan of organization. I believe the Auxiliary is a very useful recruiting force for organized medicine. When Mrs. Doctor decides she intends to join the Auxiliary, Mr. Doctor will promptly pay up his dues and become an active member of his medical society in order that Mrs. Doctor may carry out her wishes. She will keep after him until she gets him into organized medicine and Mr. Doctor is well aware of this fact, so he surrenders at once and another member is added to organized medicine.

The Auxiliary is ready and willing to support actively any program that organized medicine proposes. Working as an organization and individually through the various women's clubs they can and have been of great aid in putting through programs relating to public health work.

Their work in aiding the Preventorium at the State Sanatorium has been of inestimable value.

The Auxiliary has a definite place in the scheme of organized medicine and is filling it splendidly. I trust the Auxiliary will continue to grow in numbers and that we may have in the future as we have had in the past its active support in our efforts to solve the weighty problems that confront the medical profession.

J. W. D. DICKS, President,
Mississippi State Medical Ass'n.

OUR AUXILIARY

We often hear the question "Why have an auxiliary?" "What is it for?" I believe a few words about the ideals and purpose of the auxiliary will give a clearer understanding of its place in organized medicine.

The constitution sets forth four objects: (1) Through its members, to extend the aims of the medical profession to all organizations which look to the advancement of health and education. This is accomplished by placing health programs or instruction, or furnishing speakers, which have been approved by the advisors appointed by the president of the medical society, in the various womens clubs and such other organizations which have health programs in their course of study. In other words see that the health programs are from authentic sources instead of often questionable ones which give more mis-information and fads than correct health knowledge.

MRS. FRANK L. VAN ALSTINE

Presdient, Woman's Auxiliary to the Mississippi State Medical Association

(2) To assist in the entertainment of all state, district, and county social meetings.

(3) To promote acquaintanceship among physician's families that their friendship may increase.

(4) To do such other work as may be approved

from time to time by the Mississippi State Medical Association.

It is with the third object that we are especially interested in promoting at this time. If there has ever been a time in the history of the medical profession when close friendship and co-operation and understanding was needed among the doctors it is NOW. With the world unrest, the changing conditions which will greatly affect the welfare of the profession, a real friendship is needed as a foundation for understanding and co-operation. And who can guide and direct the social side of our lives so well as the doctors' wives? We are expected to guide the social side of our lives so well as the doctors' wives? We are expected to guide the social side of other contacts, why not the ones closest and dearest to us?

FRIENDSHIP and CO-OPERATION are the key words of our auxiliary and we need the help of every doctor and doctor's wife in the State of Mississippi that a solid front may be presented to the forces encroaching upon the welfare of the medical profession.

MRS. FRANK L. VAN ALSTINE.

DR. UNDERWOOD OFFERS PROGRAM

Since its organization. the Woman's Medical Auxiliary has been eager to serve the best interest of the medical profession of the State, and in so doing be of real service to the entire citizenship of the State. At the same time, this splendid organization has been of material assistance to the public health authorities. After all is said and done, the fact remains that the interests of the medical profession and the public health authorities are entirely mutual, each group depending a great deal upon the other for the success of its work, and as years go by this will be more nearly universally recognized by all concerned. The finest possible service to mankind is our goal.

After talking with a number of the officials of the Woman's Auxiliary, I offer a program in which they are interested and in which every physician and health officer worthy of the name is interested. All citizens of Mississippi should be greatly interested in this program—some are already, but far too many still are indifferent.

Our mutual health calendar for 1934 should be:

1. Reduce the infant death rate.
2. Reduce the maternal death rate.
3. Extend organized health service to every county.
4. Increase the per capita consumption of safe milk.
5. Work for the day when no citizen shall suffer or die from a preventable disease.
6. Continue efforts to eradicate completely pellagra and smallpox.
7. Immunize every baby in the State against diphtheria at six months of age.
8. Extend the benefits of approved sanitary facilities to include every rural home.
9. Provide adequate prenatal medical service and medical care for all maternity cases.
10. Through regular and thorough medical examination and consistent medical care prevent untimely deaths from such killers as cancer, tuberculosis, and the many diseases of heart and kidneys.
11. Secure a more widespread system of medical supervision of the health of school children, with a more effective system of follow-up which will provide for the removal of all remediable physical handicaps; and care for every malnourished child in the State.
12. Strive for a health-minded population who will eventually realize the benefits of positive health, and who will be just as willing to pay for competent medical and dental service when needed to preserve good health as they are now ready to pay out money for any of the other desirable possessions of life.

FELIX J. UNDERWOOD, M.D.,
Mississippi State Board of Health.

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MEMPHIS, TENN. — JACKSON, MISS.

Dr. George P. Muller

Philadelphia, Penn.

Professor of Clinical Surgery, Graduate School, University of Pennsylvania.

Surgeon to Lankenau and Misericordia Hospitals.

Consulting Surgeon to White Haven Sanitarium and Chestnut Hill Home for Consumptives.

Consulting Surgeon to Fitzgerald-Mercy Hospital.

Title of Lecture: "Certain Phases of Biliary Tract Disease."

Dr. A. C. Furstenberg

Ann Arbor, Michigan

Professor of Otolaryngology, University of Michigan.

Title of Lecture: "Acute Suppurations of the Mouth, Pharynx and Cervical Regions."

Dr. E. D. Plass

Iowa City, Ia.

Professor and Head of the Department of Obstetrics and Gynecology, at State University of Iowa.

Was associated with Dr. J. Whitridge Williams at Johns Hopkins Hospital from 1911 to 1922, when he went to Detroit as Obstetrician-in-chief to the Henry Ford Hospital. Remained there until 1926, since which time has been in Iowa City.

Member American Gynecological Society; American Ass'n. Gyn., Obs., and Abdominal Surgeons; Central Ass'n. Obstetricians and Gynecologists and a number of other organizations of specialists.

Title of Lecture: "Simplification of Obstetrical Care."

Dr. Meredith F. Campbell

New York City

Instructor in Surgery, College of Physicians and Surgeons, Columbia University.

Instructor of Urology, New York University Medical School.

Fellow American College of Physicians and Surgeons.

Member American Urological Association.

Attending Urologist to the Babies' and New York Nursery and Child's Hospitals.

Assistant Attending Urologic Surgeon Bellevue Hospital.

Consulting Urologist to St. Vincent's Hospital, Montclair, N. J.; Essex County Isolation Hospital, Belleville, N. J.; Essex Mountain Sanatorium, Verona, N. J.; Madison Park Hospital, Brooklyn, N. Y.

Authorship includes a book, "Infection of the Kidneys" (Harper and Bros.).

Title of Lecture: "Chronic Urinary Infection in Infants and Children."

Dr. Herman O. Mosenthal

A.M., Columbia; M.D., College of Physicians and Surgeons, New York, 1903

New York City

Interne—New York Hospital; New York Foundling

Hospital.

Attending Physician, Seton Hospital; Diseases of Metabolism, Vanderbilt Clinic.

Associate in Medicine and Associate in Biological Chemistry, Columbia; Associate Professor of Medicine Johns Hopkins Medical School; Captain Medical Officer Reserve Corps U. S. Army.

Since 1920 associated with the New York Post Graduate Medical School and Hospital, where he is now attending physician and director of Department of Medicine.

Two Lectures before Mid-South Post Graduate Medical Assembly. Subjects: "Bright's Disease—Present Day Conception and Management." "Diabetes Mellitus—Significance and Control of Sugar in the Blood and Urine."

Dr. E. P. Joslin

B.A., Yale; M.A., (honorary) Yale; M.D., Harvard
Boston, Mass.

Clinical Professor of Medicine Harvard Medical School.

Major Medical Corps U. S. Army 1918, afterwards Leiutenant Colonel.

Fellow American Academy Arts and Sciences.

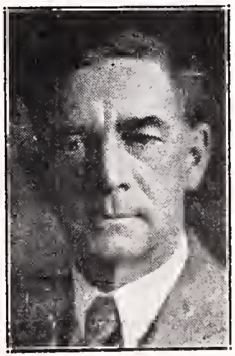
Member American Medical Association; Ass'n. American Physicians; etc.

Author of several books and many papers. Two of his works dealing with diabetes are in their fourth editions.

Title of Lecture: "The Treatment of Diabetes Mellitus."

Dr. Fred Lyman Adair

Nnamosa, Iowa



Degrees: B.S. and M.A., University of Minnesota; M.D., Rush Medical College 1901.

Interne Michael Reese Hospital.

Formerly Professor of Obs. and Gyn., University of Minnesota.

1929—Professor of Obstetrics and Gynecology, University of Chicago and Chairman of the Department since 1929.

Dr. Adair is a member of Sigma Xi; Minneapolis Academy of Medicine; American Medical Association; Am. Assn. Obstetrcians, Gynecologists and Abdominal Surgeons and various others.

Subject of Lecture: "Intracranial Injuries of the Fetus."

Dr. Charles Mazer

Philadelphia, Penn.

Assistant Professor in Gynecology and Obstetrics, Graduate School of Medicine, University of Pennsylvania.

Gynecologist to Mt. Sinai Hospital, Philadelphia.

Born in Russia, 1881. Received his preliminary education at the Brown College Preparatory School. Graduate from the Medico-Chirurgical College in 1908.

Senior author of "Clinical Endocrinology of the Female," and numerous other articles on gynecology and obstetrics.

Fellow of the American College of Surgeons and the Association for the Study of Internal Secretions.

Title of Lectures: "The Relation of Functional and Organic Derangements of the Pituitary Gland to Menstrual Disorders." and "The Diagnosis and Treatment of Female Sterility."

Dr. Alan Brown

Toronto, Canada

Professor Diseases of Children, University of Toronto.

Physician-in-chief, Hospital for Sick Children, Toronto.

Consulting Physician in Child Hygiene to the Local, Provincial and Dominion Governments of Canada.

Subject of Lecture: "Some Common Mistakes in the Diagnosis and Management of Conditions in Children."

Dr. J. C. Meakins

Royal Victoria Hospital, Montreal, Canada

Professor of Medicine McGill University, Montreal.
Degree: M.D., McGill University.
Member American College of Physicians.
Association American Physicians.
American Society for Clinical Investigation.

Two Lectures before Assembly, subjects: "Rheumatic Fever Considered as a Specific Infectious Disease." and "Bronchiectasis: Its Early Diagnosis and Treatment."

Francis Marion Pottenger

A.M., M.D., LL.D., F.A.C.P.
Monrovia, California

Born, New Baltimore, Ohio, Sept. 27, 1869.

Degrees of A.M. and LL.D. (honorary) from Otterbein College, Westerville, Ohio. Graduate Cincinnati College of Medicine and Surgery (highest honors) 1894. M.D.; Post graduate medical courses in New York, European clinics, Vienna, Berlin, Munich, London.

Clinical Professor of Medicine, School of Medicine, University of Southern California since 1931. He was instrumental in founding the Southern California Anti-Tuberculosis League serving as president 1903-06. Chairman of Tuberculosis Committee of State of California in 1903.

Dr. Pottenger is a member of Los Angeles County Med. Assn. (Pres. 1906-07); Los Angeles Clinical and Pathological Society (Pres. 1923-24); Southern California Medical Society (Pres. 1912-13); California Medical Assn.; Pacific Interurban Clinical Club; California Academy of Medicine; Amer. Med. Assn.; Amer. Therapeutic Soc. (Pres. 1914-15); Assn. for Study of Internal Secretions (Sec. since 1917); Fellow Amer. College of Physicians (Councilor 1915-23); Regent 1923-29; Vice Pres. 1929-31; Pres.-elect 1931; Pres. 1932-33); Amer. Climatological and Clinical Assn.; Association for Study of Allergy; Amer. Public Health Assn. Amer. Sanatorium Assn. (Pres. 1924-25); Medical Editors and Authors Assn.; Trudeau Soc. of Los Angeles; Los Angeles Tuberculosis and Health Assn. (Member of Board of Directors since 1924; first Vice-Pres. 1929); California Tuberculosis Assn. (Member of Ex. Com. since 1930; Pres. 1930-31); National Tuberculosis Assn. (Director since 1930); International Union Against Tuberculosis; Eugenics Soc. of the U. S. A.; Assn. for Advance of Science; Science League of America; National Geographic Soc.; Amer. Academy of Political and Social Science; Florence Nightingale Institute of Honorables (Academy of Regents); Institute of American Genealogy.

Dr. Pottenger has published about 250 papers on Medicine and is author of a number of books. Among his late works are "Tuberculosis and How to Combat It," pub. 1921 with second edition in 1928; "Symptoms of Visceral Disease," 1919. Fourth Edition 1930; "Tuberculosis in the Child and Adult" to appear in February, 1934.

Dr. Pottenger has addressed medical societies in practically every city in the United States and medical societies in Europe. He is President and Medical Director of The Pottenger Sanatorium and Clinic for Diseases of the Chest, established in 1903 at Monrovia, California. His two sons Robert T. and Francis M. are associated with him. His home is at Pasadena.

Doctor Pottenger will give two lectures before the Mid-South Post Graduate Medical Assembly. Subjects: "The Necessity of Early Diagnosis." "The Management of the Tuberculous Patient."

Dr. Douglas Quick

New York City

Was for 16 years Attending Surgeon Director of the Head and Neck Dept. and Director of Irradiation at Memorial Hospital, New York (Resigned from institution last year.)

In addition to state and national medical organizations is a member of American College of Surgeons, New York Academy of Medicine, and a number of special societies dealing either with cancer or irradiation, such as the American Cancer Research Society, the Radiological Society of North America, the American Radium Society (formerly President), the British Roentgen Society, and an honorary member of the Northern Association of Medical Radiology (Sweden.)

Devotes entire attention to treatment of cancer in its various forms. Is particularly partial to combined irradiation (x-rays and radium) in close conjunction and co-operation with surgical measures in the treatment of cancer and this principle will underlie his address.

Subject of Lecture: "Radiation and Surgery in Cancer of the Head and Neck."

Dr. John A. Killian

New York City

Dr. Frederick A. Coller

M.D., Harvard, 1912

Ann Arbor, Michigan

Assistant Professor of Surgery, University of Michigan, 1920-23; Associate Professor 1923-26; Professor since 1926.

Director Department of Surgery since 1930.

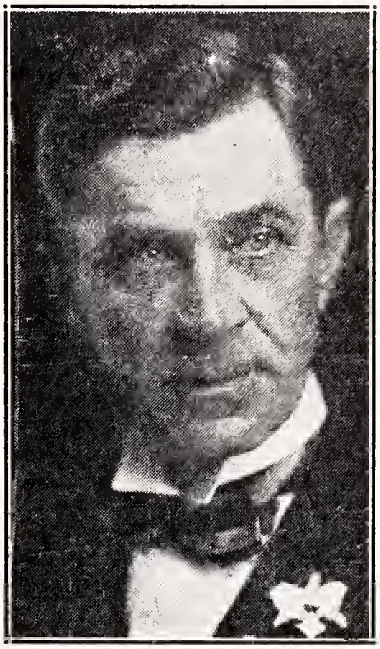
Served overseas with Harvard Unit American Ambulance Corps, Paris, and Royal Army Medical Corps, B.E.F., 1915-16; commanding captain, Medical Corps, U. S. A., Sept., 1917; major, 1918; overseas with 316th Sanitary Train, 91st Division, U. S. A., 1918-19; Lt. Col. Medical Corps, 1924-29.

Fellow American College of Surgeons.
Member American Surgical Association.
International Surgical Association.
Society for the Study of Goiter.
Society for Clinical Surgery.

Title of Lecture: "Mortality Factors in Acute Appendicitis."

Dr. Richard C. Bunting

Memphis, Tenn.



Chairman of program committee, which position he has filled for several years. Associated with him on the committee are the officers of the Assembly and the following Memphis representatives Dr. J. L. McGehee, Dr. J. A. Crisler, Jr., Dr. J. Conley Sanford. Dr. Bunting has arranged a program which appeals alike to the man in general practice and the specialist, with the speakers drawn from all parts of the United States and from Canada. All of them are nationally known. Many of them have international reputations.

Dr. John Miller Turpin Finney

Baltimore, Md.

Born, June, 1863.

Degrees: A.B., Princeton; M.D., Harvard.

In practice at Baltimore since 1889.

Professor Clinical Surgery John Hopkins University.

Fellow American College of Surgeons (former president.)

Fellow American Surgical Association (former president.)

Southern Surgical and Gynecological Association.

Brig.-Gen. Medical Reserve Corps U. S. A. Chief Consultant in Surgery A. E. F.

Decorated D. S. M. (U. S.); Comdr. de l'Orde de la Couronne (Belgian); Officer de la Legion d'Honneur (French).

Title of Lecture: "Diverticulosis and Diverticulitis."

Dr. Joseph Brennemann

Chicago, Illinois

Chief of Staff Children's Memorial Hospital, Chicago.

Title of Lecture: "Some Observations on the Treatment of Empyema in Children."

Dr. F. J. Runyon

Clarksville, Tenn.

Vice-President for Tennessee.
Acting President of Mid-South Assembly.

Born Trenton, Todd County, Kentucky.

Graduate of the University of Louisville and Bellevue Hospital Medical College, New York; Ex-Vice-President Tennessee State Medical Association; Ex-President of the Middle Tennessee Medical Association, and of the Tri-State Medical Association, Mississippi, Arkansas and Tennessee; present Vice-President of the Mid-South Post Graduate Medical Assembly.

Located at Clarksville, Tenn.

Dr. Felix J. Underwood

Jackson, Miss.

Dr. Felix J. Underwood of Jackson, Mississippi, Executive Secretary of the Mississippi State Board of Health. He is being prominently mentioned for U. S. Surgeon General. He is one of the outstanding public health men of the nation.

Dr. Augustus Street

Vicksburg, Miss.

Vice-President for Mississippi.

"The program for the coming meeting of the Mid-South Post Graduate Medical Assembly shows clearly that we are to have one of the finest meetings the Assembly has ever had. We doctors of the mid-south territory are unusually fortunate in having provided for us so much information by most able authors, condensed so as to take but a short time, and available with but little distance to travel. I heartily congratulate Dr. Cooper and the Program Committee on their selection of essays.

It is a pleasure to be associated with this organization and to attend the meetings, and I deeply appreciate the honor bestowed in electing me to the Vice-Presidency."

Dr. George B. Hassin

Chicago, Illinois

Dr. Hassin was born in Russia in 1873.

Degree of M.D. at Imperial University of Kazar, Russia. Post graduate courses at Vienna, Hamburg, Berlin.

Professor Urology University of Illinois College of Medicine.

Fellow A. M. A.

Member American Neurological Association; Association for Research in Nervous and Mental Diseases; Central Neuropsychiatric Association.

Is a former president of the Chicago Neurological Society.

Title of Lecture: "Significance of Spastic Paraplegias in General Practice"

One-thirteenth of the body weight is blood.

H. King Wade

Hot Springs, Ark.
Vice-President for Arkansas.

Like much of the other material that gives strength to the Mid-South, Dr. Wade came out of Mississippi. Born in Sherman in 1894, he had the average public school education before launching upon his medical career. He was graduated from the University of Tennessee Medical Department in 1916, and located at Hot Springs, Ark., at once. From the beginning his success has been phenomenal, for Dr. Wade is only in his prime and is well established as a genito-urinary specialist. He is well-known over the Southern states by reputation, if not in person, by members of the assembly. He has the following to say about our assembly:

"I think the Mid-South Medical Assembly is the best meeting of the year for physicians in Mississippi, Arkansas and Tennessee. A marvelous post-graduate course is given and every physician in the three states should avail himself of the opportunity of hearing the splendid teachers that will be our guests at this meeting in February."

Officers of the North Mississippi Medical Society for 1934

Frank Ferrell, President; Ashland, Miss.

A. H. Little, Secretary, Oxford, Miss.

J. J. McGowan, Vice-Pres., Benton county; Frank Ferrell, Delegate.

W. W. Phillips, Vice-Pres., Lafayette county; B. S. Guyton, Delegate.

Ira B. Seale, Vice-Pres., Marshall county; D. R. Moore, Delegate.

G. H. Wood, Vice-Pres., Panola county; G. H. Wood, Delegate.

C. M. Murry, Vice-Pres., Tippah county; R. M. Adams, Delegate.

H. N. Mayes, Vice-Pres., Union county; C. M. Speck, Delegate.

R. J. Criss, Vice-Pres., Yalobusha county; G. A. Brown, Delegate.

Dr. H. B. Everett

Memphis, Tenn.

Dr. Everett is president of the Tennessee State Medical Association and began right by being born in Mississippi. He still visits his mother at the old home place in Hickory, Miss., where made his advent October 15, 1883.

He attended Georgia Robertson Christian College, Henderson, Tenn., and was graduated with an M.D. degree from Memphis Hospital College, in 1906. He completed his interneship at St. Joseph's Hospital the following year and at Binghamton, a part of the city of Memphis, where he still resides. Dr. Everett's forensic ability has acquired him the distinguished epithet of "Chancellor," and his business acumen has placed him head of the Physician's Business Bureau. He is also vice-president of the Commercial and Industrial Bank of Memphis.

Dr. Everett's qualities for leadership early placed him in the vice-presidency from Tennessee of the Tri-State Medical, now the Mid-South Assembly. He is serving also his eighth year as a delegate to the House of Delegates of the A. M. A.

The Community Hospital Meeting

of The Alcorn Medical Society
was held at
The Club Room of the Waldron Hotel
December 14—7:30 P. M.

—PROGRAM—

Meeting called to order by the president.

Reading of the minutes of the last meeting by the secretary.

Invocation.

Dinner.

Unfinished and new business.

Community Hospital Program—Dr. W. H. Anderson. Members of the Legislature and Press, special guests.

DR. J. R. HILL, President
DR. A. DABNEY HURT, Secretary

Alcorn county has the most wide awake county society that we know anything about. It will do you lots of good to attend one of their meetings.—Ed.

Dr. P. W. Rowland

Oxford, Miss.

President-Elect Mid-South Post Graduate Medical Assembly. Dr. Rowland has the marked distinction of being a charter member of this association which was known as the Tri-States Medical Association. Dr. Rowland has been a member of the medical faculty at the University of Mississippi for a number of years. We know of no man in the medical profession who carries a higher standard of ideals. Every day and in every way he dignifies the profession. He is scholarly, cultured, refined, and broadly read.

List of Contributors Mid-South Post Graduate Medical Assembly

DR. GILBERT J. LEVY, CHAIRMAN EXHIBIT COMMITTEE 1934

Gwinner-Mercere, Madison Ave., Memphis, Tenn. General Electric Company. Southern Surgical Supply Company. Mead Johnson & Company. Fischer & Company. Bilhuber-Knoll Corp. J. A. Majors. Abbot & Company. Merck & Company. Forreger Company, New York, N. Y. Gerber Products Company. R. B. Davis. A. S. Aloe Company, St. Louis, Mo. Puritan Gas Company, Kansas City, Mo. E. R. Squibb & Sons. Mellins Food Company. Kansas City Gas Company, Kansas City, Mo. Dick X-Ray. Petrolagar. Safety Anesthesia Apparatus Concern, Chicago, Ill.

In the United States, 571 of the 2,072 counties have full-time county health departments.

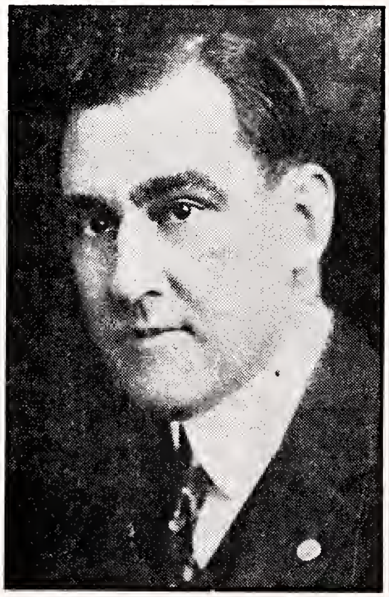
Dr. J. M. Hood

Houlka, Miss.

Dr. Hood is president of the North East Mississippi 13 County Medical Society. He lives in Dr. Walker's town of Houlka, the "hub of the universe." The highest honor in the gift of the society was worthily bestowed. He has the real spirit of the practitioner. To begin with, he is a citizen of the first rank and order. He is one of the best informed general practitioners in the state of Mississippi. He is active. He is progressive. He is strong for organized medicine. Our society will go forward under his leadership.

Dr. A. F. Cooper

Memphis, Tenn.



Dr. A. F. Cooper, Secretary of the Mid-South Post Graduate Medical Assembly. A natural born secretary, pre-destined and fore-ordained to service for the Mid-South. Much credit is due Dr. Cooper for the success of the best medical association in the United States. You think of the Mid-South and Dr. A. F. Cooper jointly.

Insanity vs. Politics

BY L. L. McDOUGAL, SR., M.D.
Booneville, Miss.

During the past two years we have had considerable discussion in the press, and otherwise, about the reorganization of State Governmental Departments in an effort to centralize control, to promote efficiency, and to reduce cost.

These prospective reforms include changes in the control and management of the state eleemosynary institutions and it is about these, especially the hospitals for the insane, that I wish to speak. Of the latter there are two in this state—one at Jackson and one at Meridian. The average daily patient population of both institutions is about 3,400. The management of each institution is in the hands of a board of trustees, of five members, appointed by the governor from the laity. These boards are entirely independent of each other. I know of no minimum requirement for a board member except that he must have some political influence and be favorable to the administration. Directly in charge of each hospital is a superintendent who is supposed to adhere to the policies of the Board of Trustees. In other words the cart is supposed to push the horse.

The people of Mississippi are waking up to this haphazard system of political control. The tremendous cost of operation, the wholesale firing of employees by every new governor and the inadequate care and treatment of the patients. The time has come when some change is inevitable; and it is imperative that the physicians of the state get together and demand some procedure whereby the unfortunate inmates of the insane hospitals will be assured more and better treatment instead of possibly poorer care and no treatment. To insure proper supervision and progressive scientific treatment I propose that the control and supervision of the state hospitals for the insane be vested by legislative action in the State Board of Health and give the following reasons:

First—"Mental disease is the most important public health problem that confronts the world today. It is important from the economic point of view and it is still more important from the humanitarian standpoint.

"The average daily population of the mental hospitals in the United States is 395,407 as against an average population of 331,359 in all other types of hospitals. The average percentage of occupied beds in mental hospitals is 95.4. The daily average of mental patients increased by 26,372 between 1928 and 1929 compared with a decrease of 5,793 of all other hospital patients. There is a daily average of 324.6 persons per 100,000 population in mental hospitals and an average of only 192.1 in general hospitals."

The two paragraphs above are quoted from an article in "The Modern Hospital," November, 1932, by William A. Bryan, Superintendent of the Worcester State Hospital, Worcester, Massachusetts, who is considered an authority on mental medicine.

Second—Preventive mental medicine is the most important branch of psychiatry and can not be successfully carried out except through a well organized social service department. This if put into operation alone would require a large outlay and trained social service organizers and workers, it would however, require but little extra cost if a part of the public health service as the county health unit could be held responsible for this work in their respective counties until the progress of the social service required a more elaborate personnel.

Third—Petty politics would be almost eliminated as a majority of the State Boards of Health are never under the control of the governor and the Superintendent would be in a position to exert his professional and executive ability in an effort to improve the hospital and the treatment of the patients instead of treating them more or less politically; that is, following the dictates of influential relatives without regard for the best interest of the patients in order to hold his job.

Fourth—Being strictly a medical problem it would be under the control of a medical board who would certainly be more competent to administer medical problems than a group of laymen who have their own private and political interest to look after and who likely never visited or had any interest in such hospitals or type of work until appointed on the Board of Trustees.

Fifth—There would be a better opportunity for the superintendent to build up a competent personnel without the frequent wholesale firing of employees for political reasons and replacements by untrained and often incompetent, not amenable to necessary hospital discipline and are disloyal to the politics of the superintendent and hospital.

Sixth—In medical problems arising in the institution such as epidemics, proper consulting medical staff, efficient laboratory and social service activities it would not be necessary to obtain first the consent and approval of a board of laymen who if antagonistic could withhold such approval for political or other reasons.

Seventh—We have in this state a tried and proved example of board of health hospital control in the Tubercular Sanatorium at Magee and I do not believe it could have been managed and operated as successfully as it has been under any other system. It was my privilege to be a member of the State Board of Health at the time the State Tubercular Hospital was organized and for eight years I continued in that capacity. The superintendent selects his own staff, employs his own helpers and does his own buying. This hospital has existed for 16 years with one superintendent without discord, scandal or complaint from the taxpayers. (Hats off to Dr. Boswell and the Board of Health).

Tuberculosis is no more a public health problem than mental disease and involves only a fraction of the economic loss brought about by the latter. So why not place them all under the control of the State Board of Health where they rightfully belong?

Appendicitis and Appendicosis: A Study of 500 Consecutive Cases Without Concomitant Disease

BY DEWELL GANN, JR.,
A.M., M.D., F.A.C.S., F.R.C.S., (Edin)
Little Rock, Ark.

A few years ago so many normal appendices were removed for lower right abdominal distress without relief that surgeons reached a period when they feared removing the appendix in the absence of very definite fulminating appendiceal symptoms. In some instances lives of patients were sacrificed to establish their diagnostic acumen or clear themselves with their colleagues. Even the existence of such an entity as chronic appendicitis became questionable. This dilemma brought about an increasing mortality from appendicitis that approximates alarming proportions and today the literature abounds with discussions of some phase of acute or chronic appendicitis.

I believe (1) it can be established that there is such a thing as chronic appendicitis from which complete relief can be obtained by operation; (2) that in the majority of cases a simple appendectomy through a small incision with the least amount of trauma possible is better than extensive exploratory incisions; (3) that a diagnosis of appendicitis can usually be established before operation and (4) in practically all cases when accompanied by peritonitis the process can be controlled by proper treatment.

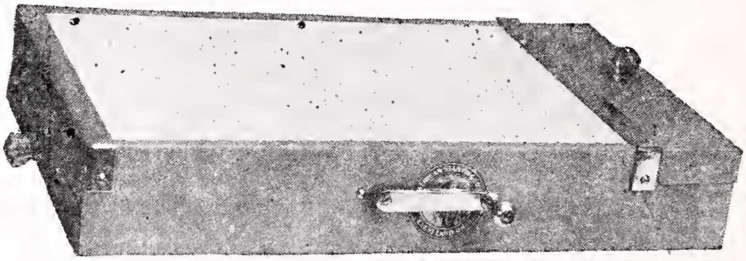
There are two kinds of appendicitis, appendicitis of the wall and appendicitis of the lumen of the appendix. A better designation of the latter condition is appendicosis. Both are clinical entities with sufficient symptom syndromes to establish a definite diagnosis. Appendicitis of the walls may be acute or chronic and appendicosis may cause an acute appendicitis of the walls.

Many years ago Murphy described the sequence of symptoms in the syndrome of acute appendicitis of the walls of the appendix. In my seemingly short quarter of a century in dealing with disease I have yet to see this syndrome fail when in sequence regardless of the concomitant presence of ovarian cysts or fibroid tumors with twisted pericles, etc.

The sequence is familiar to us all, viz., 1. Diffuse abdominal pain. 2. Nausea, with or without vomiting. 3. Rise in temperature (99-101). 4. Increase in pulse rate. 5. Localized pain and tenderness over the appendix. These symptoms are so well known that, except for the pain, they will not be discussed.

The pain and tenderness need not be over McBurney's point. The tenderness will be over the appendix wherever it may be. The pain will be over the appendix in the later stages of the disease only. In some cases the maximum point of intensity will be found on rectal examination or posteriorly just below the lower pole of the kidney and will so simulate the pain associated with a pyelitis or pyonephrosis that it may be most confusing. If the appendix is located retroperitoneally practically all patients have the first pain in the epigastrium. It radiates toward the lumbar or sacroiliac regions and is not usually fol-

Pharmacists Sanitary Slab



For further approval by the Doctors and Pharmacists within the radius of "The Mississippi Doctor", we herewith, present to you the likeness of a new and useful invention known as The Pharmacist Sanitary Slab.

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lowed by nausea. The pain usually subsides (in 12 to 20 hrs.) and the patient makes an uneventful recovery. It is in this small group of cases that we see repeated attacks. These may be responsible for the idea that the appendix can be frozen out and the basis for such a wide use of the ice cap in all cases of appendicitis. In reality ice can do nothing more than relieve pain and when used over a long period of time, burn the skin.

In this group we also see distension of the abdomen that is more or less constant. The symptoms are of long standing. The x-ray reveals nothing and I feel confident we can find the cause of certain types of colitis, caecal stasis and vague abdominal symptoms in this group.

Recently I have operated on two patients in this group. In one the appendix ruptured at the tip and formed a psoas abscess. She was sent home without operation by a very good surgeon at the time of the attack and not seen for three months. The other was opened during an acute attack by two of my very good friends whom I consider splendid surgeons. A few months later she again developed trouble. At this time they asked that I try my luck. The appendix was so completely retroperitoneal and hidden, that, before its removal, I am sure a very ordinary technician could have counted the red cells in the beads of prespiration on my head.

The term "chronic appendicitis" from a pathological viewpoint should be limited to certain cases of appendicitis of the walls. When infected by the usual organisms, ordinarily an appendix with wall involvement does not long lie in a quiescent state. It either becomes fulminating, ruptures, and acts as a focus for a localized or diffuse peritonitis, or the inflammatory process subsides and the round cells are replaced by fibroblasts, the process finally terminating in scar tissue formation, as when an inflammatory process involves any other soft part. It is then spoken of as "appendicitis obliterans" with or without adhesions about the caput cecum and terminal ileum, adhesions which may be responsible for a train of symptoms resembling those seen in true cases of chronic appendicitis. What is the predominating pathologic characterization of a chronic inflammatory process? If it is a round celled infiltration, as it is elsewhere, it does not exist very long in the appendix and when found is more evident of a subacute than a chronic inflammatory process.

The symptoms in appendicosis or appendicitis of the lumen, are quite different from those produced by appendicitis of the walls and are mechanical rather than infectious. The patient does not complain of pain but a discomfort over the appendix. The discomfort is an appendiceal colic due to pressure within the lumen. The appendix is signalling that it is packed and trying to empty itself. A similar discomfort is experienced in caecal stasis. In appendicosis the caput caecum can be palpated but is not so markedly distended as in caecal stasis. Neither is there a positive left and right Morris sign, signs that are significant in differentiation. Appendicosis is accompanied by nausea when the distension is of sufficient degree, caecal stasis is not.

I was once removing the appendix of Dr. J. under infiltration anaesthesia. The appendix was normally situated and easily visible after the peritoneum had been opened. I very lightly picked it up with a Russian tissue forcep without producing traction on the meso-appendix which is always accompanied by pain. He laughingly said, "Will you take your fist out of my stomach." The pressure from the outside had produced epigastric distress. I have since verified this on other patients.

Sufficient pressure from the inside or lumen will give complaint, as will also a change in the circulation of the walls. As long as the appendix can empty itself and there is no fecalithic formation, the symptoms produced by the distension of the lumen will pass away and between fillings the patient will experience comparative comfort, a very important differential diagnostic point. The day may come, however, when the appendix can no longer empty itself and concretions are formed. If these are of sufficient size there is an interference with circulation and a resultant involvement of the walls of the appendix. At this time an entirely different clinical picture develops and operation is no longer elective but imperative, else leakage, gangrene and rupture are imminent.

DIFFERENTIAL DIAGNOSIS

Just because the operation is simple, the mortality low, the organ of no function and one may hope such an operation will relieve the symptoms bringing the patient to the physician, tenderness or muscular spasm to either light or deep pressure over the caput cecum should never lead one to operate for chronic appendicitis. The laity now agree they may live longer than seven years without the appendix, (They are not so sure about the gall bladder), but a poorly executed appendectomy may not only fail to relieve the

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symptoms but may aggravate them.

Many surgeons depend upon the roentgenologist for a diagnosis. This should not be done but without his opinion one should not operate on a patient with a clinical diagnosis of chronic appendicitis. With his aid, plus a careful history and the examining fingers of a surgeon of experience, one can, by a process of elimination, arrive at a satisfactory conclusion. Before operating on a patient for chronic appendicitis one must rule out the many conditions that may present similar symptoms and signs. In the old days, in the south, when nothing else could be found, the patient was given quinine, and, if cured, the diagnosis of malaria was established. Now, if all other causes of right-sided abdominal distress are eliminated one is justified in removing the appendix. In doing this, however, please remember that according to some well known writers, the operation for chronic appendicitis is considered the most unsatisfactory operation within the abdomen so far as relief of symptoms is concerned. An exploratory procedure only finds five per cent of lesions the roentgenologist and examining surgeon cannot find.

It is not any wonder, therefore, that the appendix has been victimized during the surgical onslaught to remove the cause of lower right abdominal distress. Not so much so as the ovary, but with such a frequency that I sometimes wonder whether it was for good or bad. To say the least, now that appendicitis is seemingly on the increase, it may be that removal of the appendix, sometimes in error, kept down the number of acute cases, and, since the appendix was often removed on suspicion, many cases did not have time to suppurate. In fact, in years gone by, the ratio of operation for chronic and acute appendicitis was about three to one while today it is greater in the reverse, as my series will show.

The diagnosis of appendicitis in children has presented me one of my most difficult problems. It has carried the gravest of responsibilities. As many as eight of us have vied for as many as six hours while the appendix of our confrere's child ruptured. To operate on a patient with pneumonia or any other acute infectious disease which may in its prodromal stages first manifest itself in the abdomen is ill advised. To permit an acutely infected appendix to rupture may be equally serious.

As in an adult, appendicitis in children is usually fairly typical, but localized pain, when constantly referred to by the very young, tenderness and rigidity, following a period of constipation is almost diagnostic of this disease, regardless of nausea, vomiting, rise in temperature or increase in pulse rate.

Appendicitis in the very young and in the aged is much more fulminating than in the average normal adult. I have this in mind when I ask my friends at midnight, "How old is your patient? How long sick?" I know this may be old to many of you but had I known it as little as fifteen years ago I could have saved many anxious moments.

To discuss the differential diagnosis of what we speak of as the lung and kidney abdomen, the abdominal symptoms of heart disease, tabes, tuberculosis, etc., is beyond the scope of this paper. All these are usually considered by both the surgeon and internist before reaching a conclusion. However, there is a group of symptoms seen in the abdomen, the result of endocrine dyscrasias, that are not generally

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considered. Distension after eating, epigastric fullness, lower right quadrant distress, when seen in the primary or secondary hypogondal individuals, should not lead one astray and while these individuals do have organic pathology, in the absence of acute disease, their glandular dysfunction should be considered before subjecting them to operation.

X-ray examination of patients with suspected acute appendicitis is of little value. Because of the delay and the required manipulation of the patient's abdomen, probably such an examination is seldom justified.

On the other hand, with patients suspected of having chronic appendicitis an x-ray examination is of the greatest value, and, wherever, there is any doubt about the diagnosis, should not be omitted. Such findings as tenderness over the appendix, shifting with it, fixation of the appendix, and pain referred to other parts of the abdomen, by pressure on the appendix, are valuable diagnostic signs elicited by x-ray examinations. Should the appendix not be normally situated, the x-ray will reveal the abnormal location. Besides the direct signs of appendiceal involvement, such examinations as cholecystography, the barium-meal examination of the stomach and duodenum, the examination of the colon, and the examination of the urinary tract for calculi, help eliminate most of the conditions confused with appendicitis. In suspected acute appendicitis in children I like to have my roentgenologist assure me that his films do not show any involvement of the right lung referring pain into the lower right abdomen before I proceed with an operation.

The treatment of appendicitis is now considered surgical beyond any question of a doubt. The technic of its removal remains a matter of controversy.

We should have passed through three eras of surgery, the antiseptic, aseptic and anatomical and now be in the fourth or physiological. During the antiseptic era we respected the carbolic spray but we knew not why. During the aseptic era we feared the microbe, because Leuwenhock of Delft had proven its existence.

During the anatomical era we feared nothing, because asepsis had taught us that in the absence of germ life the human body could be subjected to many kinds of long incisions and the inner parts could be manipulated in a hitherto undreamed of manner. Long incisions and extensive manipulations became quite popular. It was said by some surgeons that long incisions would heal as quickly as short ones so why not use them and take a good look. Explorations became quite common, but in time, it occurred to some that long incisions, except in the skin, would not heal as readily as short ones. Extensive explorations prolonged the operations, found little, and in many cases were dangerous.

We then entered the physiological era of surgery in which all of us should now be working. Careful study should be made of all patients before subjecting them to operation. Operation should be planned with the view of subjecting the patient to the least possible risk. With this in mind some fifteen years ago it occurred to me that I should not use the old Battle type muscle-splitting incision in cases of frank acute appendicitis, but should resort to the McBurney type of incision made over the appendix and as short as possible. I did this and after a time the suggestion came that it be called "Buttonhole."

With the advent of the "Buttonhole" type of operation my mortality began to diminish and when properly treated my cases with peritonitis got well. There were few long drawn out drainage cases and post-operative hernias became almost unknown. About a year ago it was suggested to me that a study of 500 consecutive cases of "Buttonhole" appendectomies might be interesting. This study was shortly begun and upon it plus other surgical experience this paper is based.

Hospital Admissions Personal

(By Years)	Admissions	Appendectomies	Deaths
1926—3152	646	44	2
1927—3695	756	93	1
1928—3586	725	85	4
1929—3911	804	90	4
1930—3514	734	86	5
1931—3657	608	62	6
1932—3267	645	50	3

APPENDICITIS

Five hundred consecutive cases. 278 acute. 154 subacute. 68 chronic. All surgical. 263 male. 237 female. Oldest 67 years. Youngest 3 weeks. Average 26 years plus. Duration of attack in admission: Acute cases: longest 21 days, shortest 6 hours. Subacute cases: longest 9 months, shortest 12 hours. Chronic cases: longest 12 years, shortest 3 years. Location of pain: diffuse 168, epigastric or umbilical 107, McBurney's point 225. Nausea 360. Vomiting 235. Nausea and vomiting not mentioned in others. Number of attacks: first in 222, second in 106, third in 113, others 60. Urine: pus 193, blood 19, albumen 73, casts 42, not done in 18. White count: cases 338, highest 36,000, lowest 4,000, average 11,950, not done in 162.

OPERATIONS

Buttonhole 336, McBurney gridiron incision 110, incision and drainage 24, drains used in 175. Suppuration 225, gangrene 137, perforation 78, fluid 79, pus 106, abscess 37. Peritonitis: diffuse 242, localized 113, acute cases without peritoneal involvement 77. Wound infection: in the 77 acute and 68 chronic cases there were six.

STAY IN HOSPITAL

Clean cases: longest 27 days, shortest 4 days, average 8 days. Contaminated: longest 62 days, shortest 6 hours, average 13 plus days. Temperature: highest 103.6, lowest 96.4, average 99.6. Pulse: highest 144, lowest 56, average 90. Respiration: highest 50, lowest 16, average 22.

COMPLICATIONS

Bronchitis 7. Pyelitis 7. Pneumonia 4. Pleurisy 3. Parotitis: Bilateral 3. Unilateral 2. (L) Cystitis 2. Phlebitis 2. (L). Coryza 1. Pregnancy 1. Nephritis 1. Fecal Fis. 1. Wound sep. 1.

RE-ENTRIES

Hernia: Ventral post operative 2. Obstruction: Intestinal 2. Abscess: Pericaecal 2. Impacted Feces 1. Diverticulitis of sigmoid 1.

OVERSIGHTS

No record referred to famial tendencies or constipation. Diarrhea was referred to in 12 cases, Cathartics in 47 cases. Enemata in none.

DEATHS—Total No. 25

Primary cause: all cases appendicitis acute. Complications: Peritonitis diffuse, 23 cases; Hyperthyroidism, 2 cases. Second cause: Diffuse peritonitis, 9 cases. Septicemia, 6 cases. Pneumonia, 4 cases. Embolism, 3 cases. Hyperthyroidism, 2 cases. Secondary hemorrhage, 1 case.

DEATHS

No. cases: 500. No. deaths: 25. Age: youngest 3 weeks, eldest 52 years, average 26 plus. Sex: male 17, female 8. Diagnosis: clinical and pathological agree in all cases. Acute grade 4. Duration: shortest 1 day, longest 7 days, average 4 days plus. Pain: diffuse 17, McBurney 4, epigastric 4. Nausea: 21. Vomiting: 20. Previous attacks: first in 22, second in 2, fourth in 1. Cathartics: 10, not stated in 15. Urine: pus 11, blood 1, albumen 10, casts 7. Blood: WBC; highest 22,500, lowest 9,600, average 14,750. Operation: buttonhole 13, gridiron 6, incision and drainage 6. Drainage: all cases. Gangrene:23. Perforation: 13. Suppuration: 25. Abscess: 10. Perforation, caput cecum, 1. Peritonitis: diffuse 25, local none. Pus: 22. Fluid: 3. Temperature: highest 103, lowest 96.6, average 99.8. Pulse: highest 144, lowest 58, average 100 plus. Respiration: highest 50, lowest 18, average 24. Stay in hospital: longest 52 days, shortest 18 hours, average 8 days plus.

ANSWER TO QUESTIONAIRES IN SIXTY-EIGHT CHRONIC CASES

Relieved 32. Not relieved 7. Unclaimed 12. Unanswered 17.

EXPLANATION OF DEATHS

Case No. 1.—Admitted 6:30 A. M. Duration 5 days. Appendectomy 3 hours later. Temperature 99.8. Pulse 94. Respiration 20. 18 hours after operation—Temperature 98, Pulse 90, Respiration 20. 20 hours after operation—Temperature 106, Pulse 160, Respiration 28. 24 hours after operation—Patient died. Death due to late entry and spreading peritonitis.

Case No. 2.—Admitted 10:20 P. M. Duration 7 days. Appendectomy 48 hours later. Temperature 101. Pulse 130. Respiration 40. Pulse imperceptible on completion of operation. Death five hours later due to late entry and diffuse peritonitis.

Case No. 3—Admitted 12:30 P .M. Duration 7 days. Appendectomy 9 hours later. Temperature 100.4. Pulse 108. Respiration 28. 24 hours later—Temperature 106, Pulse 120, Respiration 30. Death in 48 hours due to diffuse peritonitis.

Case No. 4.—Admitted 3:50 P. M. Duration 1 day. Incision and drainage 1 hour later. Temperature 100. Pulse 96. Respiration 24. For 5 days temperature ranged from 101 to 104. On morning of 6th day temperature normal. Abdomen soft and flat. Stole water from ice cap. 6 hours later temperature rose to 104 and abdomen was distending. Death on 8th day due to diffuse peritonitis.

Case No. 5.—Admitted 7:35 P. M. Duration 6 days. Appendectomy 3 days later. Temperature 102.6. Pulse 140. Respiration 50. Death 2 days later due to diffuse peritonitis.

Case No. 6.—Admitted 9:10 P. M. Duration 7 days. incision and drainage 12 hours later. Operated in bed under local. Temperature 100.2. Pulse 100. Respiration 22. Death in 24 hours from diffuse peritonitis.

Case No. 7.—Admitted 6:00 P. M. Duration not given. Appendectomy 4 hours later. Temperature 101.2. Pulse 130. Respiration 34. Abdomen remained distended and rigid. Temperature 105. Pulse 140. Death on 7th day due to diffuse peritonitis.

Case No. 8.—Admitted 10:10 A. M. Duration 4 days. Appendectomy 1 hour later. Temperature 98. Pulse 80. Respiration 18. 5 hours after operation pulse jumped to 122. Death on 2nd day due to diffuse peritonitis. Clark opium treatment was used in this case.

Case No. 9.—Admitted 6:35 P. M. Duration not given. Baby 3 weeks old. Temperature 99. Pulse imperceptible. Incision and drainage. Enterostomy. Death occurred 18 hours after operation. Autopsy showed ruptured appendix.

Case No. 10.—Admitted 4:40 A. M. Duration 6 days. Appendectomy 5 hours later. Temperature 96.6. Pulse 58. Respiration 18. 24 hours after operation—Temperature 103, Pulse 124, Respiration 22. 3rd day pulse had dropped to 80. 5th day temperature 100.4, Pulse 130. Death due to septicemia.

Case No. 11.—Admitted 11:55 A. M. Duration 7 days. Appendectomy on admission. Temperature (AX) After operation 100.4. Pulse 100. Respiration 20. 3rd day after operation—temperature 99, pulse 94, respiration 20. Reading in 6 hours—temperature 102, pulse 94, respiration 22. Death on sixth day due to septicemia. Temperature 107. Pulse 140. Respiration 24.

Case No. 12.—Admitted 7:20 P. M. Duration 2 days. Appendectomy 15 hours later. Temperature 103. Pulse 144. Respiration 24. Death 8 days later due to septicemia.

Case No. 13.—Admitted 2:00 P. M. Duration 2 days. Appendectomy 4 hours later. Temperature 100.6. Pulse 102. Respiration 26. Temperature normal on morning of 5th day followed by a rise to 106 in 24 hours. Death 8 days later due to septicemia.

Case No. 14.—Admitted 9:00 P. M. Duration 4 days. Appendectomy 12 hours later. Temperature 99.2. Pulse 90. Respiration 20. Death on 6th day due to septicemia. Temperature 105.

Case No. 15.—Admitted 7:55 A. M. Duration 2 days. Appendectomy 1 hours later. Temperature 100. Pulse 118. Respiration 24. Temperature normal on 4th post-operative day. 24 hours later temperature 103, pulse 140, delirious. Death on 6th day due to septicemia. (Castor oil).

Case No. 16.—Admitted 9:10 A. M. Duration 2 days. Appendectomy 1 hour later. Temperature 100.6. Pulse 86. Respiration 22. 24 hours after operation—temperature 101.6, pulse 100, respiration 22. 3rd day after operatiin—temperature 103, pulse 120, respiration 46. Death on 4th day due to septicemia.

Case No. 17.—Admitted 7:20 P. M. Duration 6 days. Incision and drainage 15 hours later. Temperature 102.6. Pulse 112. Respiration 24. 2 days later—Bron-

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cho-pneumonia. Death on 16th day due to broncho-pneumonia.

Case No. 18.—Admitted 9:20 P. M. Duration 4 days. Partial appendectomy 14 hours later. Temperature 101.8. Pulse 100. Respiration 24. 2 days later—temperature 105, pulse 140, respiration 30. 5th day temperature normal, pulse 88. That night developed bilateral parotitis. The left gland suppurated and was incised and drained. 14 days after operation hypostatic pneumonia. Death on 15th day due to hypostatic pneumonia.

Case No. 19.—Admitted 5:00 P. M. Duration 7 days. Incision and drainage 8 days after admission. Temperature 98.6. Pulse 96. Respiration 26. Death on 13th day due to broncho-pneumonia.

Case No. 20.—Admitted 8:30 A. M. Duration not given. Appendectomy 2 hours later. Temperature 98. Pulse 84. Respiration 24. At conclusion of operation pulse 140. Death on fourth day due to hyperthyroidism and acute dilatation of heart.

Case No. 21.—Admitted 7:30 A. M. Duration not given. Influenza. Incision and drainage. 6 days later sodium amytal anaesthesia. Temperature 102.8. Pulse 100. Respiration 20. 24 hours after operation—temperature 105, pulse 106, respiration 26. On 4th post-operative day—slow bleeding from wound controlled by hemostatic serum. 3 days later profuse hemorrhage. 12 days later profuse hemorrhage following removal of tissue drains. This was followed by a constant dark colored serosanguinous drainage accompanied by frequent watery stools. Death on 24th day due to secondary hemorrhage.

Case No. 22.—Admitted 10:15 A. M. Duration 6 days. Appendectomy 1 hour later. Temperature 99. Pulse 110. Respiration 20. Temperature normal on 4th day followed by evening elevation to 100. On 8th day following glycerine enema there was nausea, vomiting, and severe abdominal pain. Pulse rose from 80 to 140 in the next 24 hours. Patient died in 36 hours. Death due to embolus.

Case No. 23.—Admitted 8:30 A. M. Duration 18 hours. Appendectomy 3 hours later. Temperature 98.6 Pulse 106. Respiration 28. 3rd day temperature 106. Pulse 134. Patient was under preparation for goitre operation when operated for appendicitis. Death on 4th day due to cerebral embolus.

Case No. 24.—Admitted 1:10 P. M. Duration 2 days. Appendectomy 3 hours later. Temperature 98.6. Pulse 130. Respiration 28. 3rd day temperature 106. Pulse 134. At which time death occurred from pulmonary embolus.

Case No. 25.—Admitted 11:35 A. M. Duration unknown. Appendectomy 1 day later. Temperature 99.2. Pulse 84. Respiration 22. On 8th day following glycerine enema complained of a severe abdominal pain. Death on 8th day due to pulmonary embolus.

PRE AND POST-OPERATIVE CARE

Adults were routinely given one quarter grain Morphine and one one-hundred and fifteenth grain

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Atropine sulphate hypodermatically about an hour before operation. The abdomen was shaved and one coat of commercial tincture of iodine applied.

In frank cases of peritonitis or acute grade four appendices no fluids were given after operation except by vein, until the abdomen was soft and flat and the temperature and pulse were at or near the base line. Morphine was given to its physiological effect in all cases and recently a good deal of consideration has been given to Dilaudid. In these cases seven hundred and fifty cubic centimeters of a five per cent solution of dextrose in normal saline solution with fifteen units of insulin were given night and morning. If indicated five cubic centimeters of digitos were added to the solution. This was continued until the patient showed evidence of satisfactory progress, characterized by a drop in the temperature and pulse rate and a disappearance of distension and rigidity of the abdomen. If the patient did not show evidence of satisfactory progress within seventy-two hours after operation, blood transfusions of five hundred cubic centimeters of citrated blood were resorted to and continued according to indications. This treatment was followed in practically the entire series.

TECHNIC OF OPERATION

A small gridiron incision was made over the appendix wherever located as evidenced by the point of maximum tenderness to pressure. After delivery and detachment of the meso-appendix from the appendix, the base of the appendix was crushed with a hemostat. With the same ligature the appendix and meso-appendix were ligated, the appendix first, the meso-appendix second. With another ligature both the appendix and meso-appendix were tied. The second ligature served the double purpose of re-enforcing the first and supporting the stump during its sterilization. For this purpose carbolic acid was used, followed by alcohol. After sterilization of the stump the meso-appendix was tied over it with the same ligature. It was then dropped and the incision closed in layers. No. 1 Plain catgut was used for the most part. When indicated soft tissue drains were placed above the brim of the true pelvis and in the cul-de-sac.

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The Autogenous Bone Graft

BY HENRY G. HILL, M.D.
Memphis, Tenn.

Each of the countless millions of tissue cells which go to make up the highly developed living organism, possesses a life quite independent of the life of the organism as a whole, and is capable of retaining this viability even after separation from, or death of the parent organism. We all remember removing the heart from a frog, in the laboratories of physiology and by placing it in a warm isotonic solution, it was made to continue its contractions for several hours after separation from the body. It is upon this independent cellular life that the success of all free tissue grafts depends.

The higher the specialization of the cell, the less marked are its resisting and proliferating powers. While in the lower order of tissues, which requires less nutrition, this independent cellular life may continue for several days. Bone, being relatively poor in blood supply, lends itself beautifully to free transplanting, its cells deriving their nourishment from the serum within itself, until it becomes adherent to it new seat and the tiny newly formed blood vessels permeate the graft furnishing a new source of blood supply.

The exact role that the transplanted bone takes in the process of healing has been the subject of much discussion. Whether it simply serves as an osteoconductive scaffold, or actually participates in the production of new bone is not definitely known. Fortunately this is of little importance in its practical application. Of recent years, however, practically all observers have agreed that the graft is a definite osteogenetic force and materially hastens the process of repair.

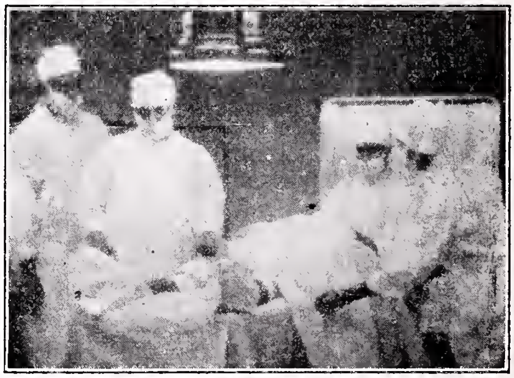

FIG. 1. Tourniquets have been applied to both legs and patient draped with sterile linens. Now ready for incision.

(Note) Figures 1 to 8 are scenes from motion picture. I am indebted to Mr. Harry C. Wilson for his assistance and cooperation in the production of the motion picture and to Mr. Frayser Hinton for his kindness in preparing the still pictures from the motion picture films.

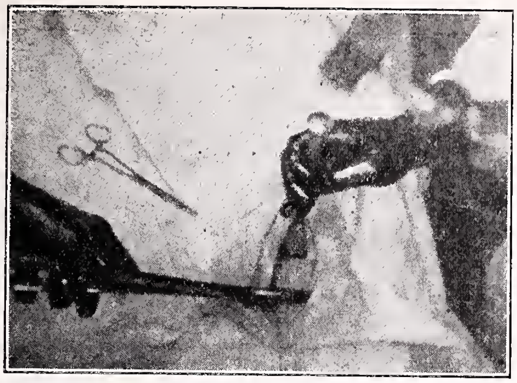

FIG. 2. Sclerotic bone ends being removed with osteotome.

The advantages of the autogenuous bone graft over all other methods of internal fixation are numerous. Failures following this method, barring errors in technique, are extremely rare, while the percentage of failures following the use of metal plates, wires, nails or any other foreign materials are universally so high that their use is no longer warranted. Homoplastic and heteroplastic grafts have also been attempted. Successful results have occasionally been obtained following the homoplastic method, (those removed from a different individual of the same species), but the graft is often difficult to obtain, and even though the surgeon has been most diligent in his selection, there is considerable danger of transmitting disease from the donor to the host. The heteroplastic graft, (those removed from an individual of a different species-, has never proven satisfactory. At best it can serve as an osteoconductive scaffold only and ultimately terminates in fibrous encapsulation, complete absorption, or should infection develop the graft will most likely be extruded from the wound as a foreign body.

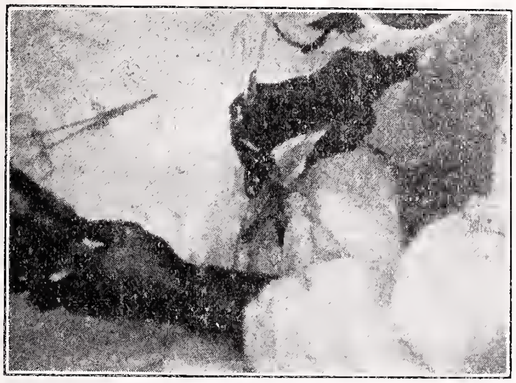

FIG. 3. Bone fragments being placed in proper position with bone holding forceps.

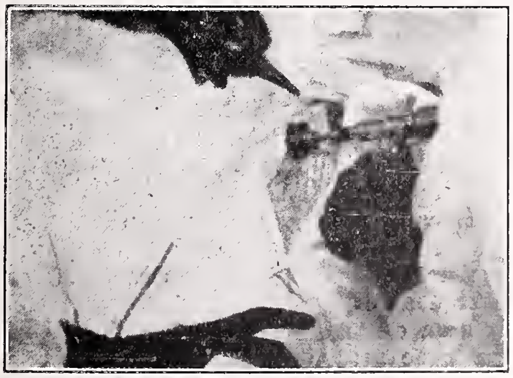

FIG. 4. Bed is prepared with motor saw for bridging fracture with graft.

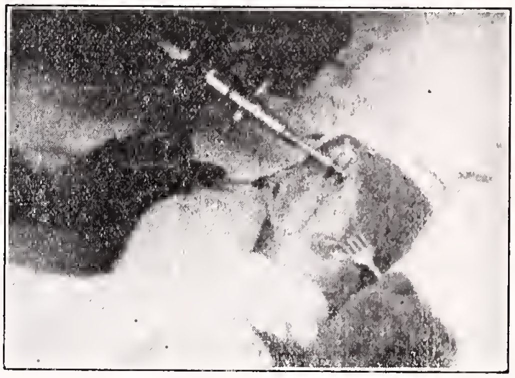

FIG. 5. Graft being cut from tibia of normal leg with motor saw.

The autogenous graft not only avoids the possibility of even the slightest foreign protein irritation, but rapidly adheres actually becoming a part of the host bone, and in time assumes the size, shape and strength as well as the histological structure of the bone which it has replaced.

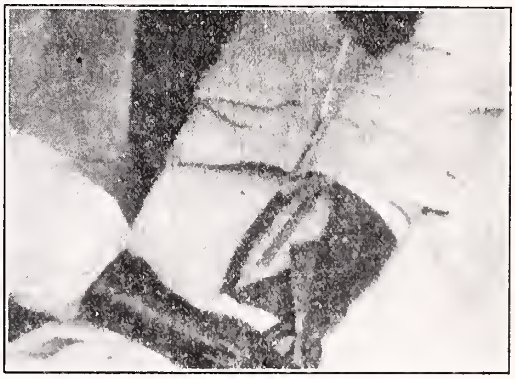

FIG. 6. Graft being removed from opposite tibia

Through the rapid development in technique, uses of this operation has reached large proportions, being indicated in Pott's disease for fixation of the spine or for fusion of practically any tuberculous joint; for replacement of bone substance lost either by injury or disease; for the correction of many deformities of both the upper and lower extremities; for the stabilization of flail paralytic joints and probably its most frequent use is to promote union in old fractures which have failed to unite.

The three commonly used types of bone graft operations are: 1. the inlay graft, 2. the onlay graft and 3. the intramedullary graft. The names of which are self explanatory and each have their indications. For the most satisfactory results the whole graft must be employed consisting of periosteum, cortex, endosteum and the adherent medullary tissue, and should be placed so that these various tissues come in contact with like tissues in the host, that is periosteum to peri-

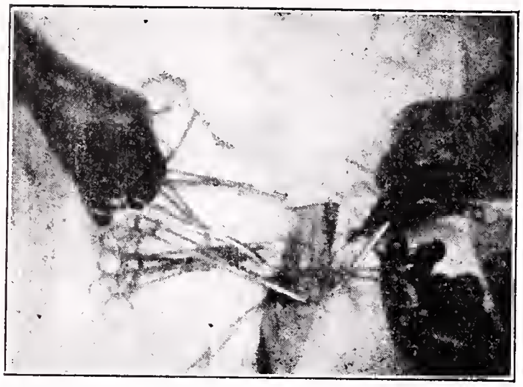

FIG. 7. Instrumental technique is carried out in tying all deep sutures.

osteum, cortex to cortex, endosteum to endosteum and marrow to marrow. This of course can be accomplished only by the inlay method and this method should always be employed when possible, especially in conditions in which the host bone has proven its inability to produce sufficient new bone for firm bony union.

Next, the most satisfactory from the standpoint of osteogenesis is the onlay graft. Here bone production is not so abundant because first, the various tissues of the graft do not come in contact with like tissues in the host, and second because in most instances the entire endosteum as well as adherent medulla must be removed from the graft in order that perfect contact may be made with the host, thereby removing much of the bone forming element from the graft. To offset these two disadvantages however, it is possible when using the onlay method to transplant a much larger section of bone (the so called massive graft), than can be done by other methods, giving a much greater surface of contact and a more abundant cell supply from which osteogenesis may take place. This method is quite applicable in cases of non unions of long standing, in certain of the deeper bones such as the femur and humerus.

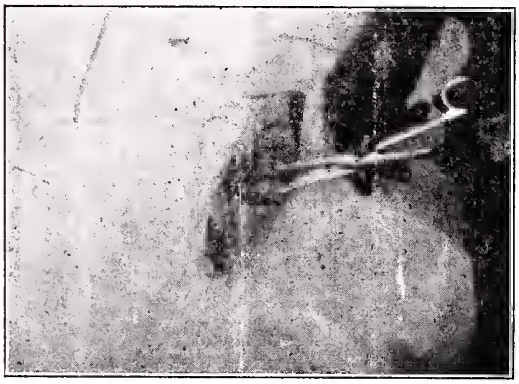

FIG 8. Graft inserted into new bed. All sutures have been tied.

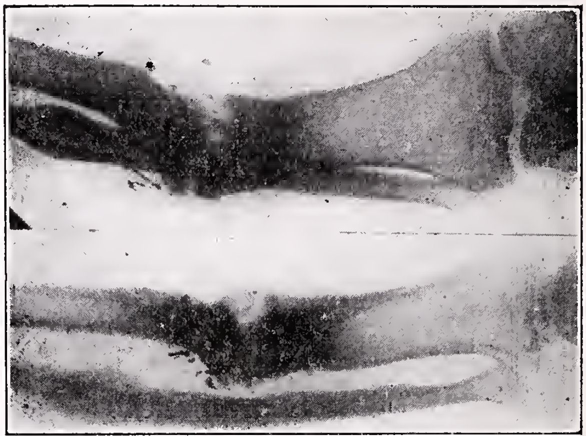

FIG. 9. A. P. and lat. X-ray views of old gunshot fracture tibia and fibula with angulation of fragments and non-union of tibia.

The intramedullary method offers the least amount of aid in the production of new bone and has been more or less universally condemned as a routine procedure. The necessary destruction of the medulla and endosteum of both fragments as well as the complete blocking of the medullary cavity has a tendency to retard healing. There are certain definite indications however, in which we have found that a modified intramedullary graft serves a useful purpose, i. e. fresh fractures of the oblique variety in which reduction cannot be maintained except by the open method. A small intramedullary bone peg is inserted to avoid subsequent over-riding from muscular contraction. In such cases trauma should be reduced to a minimum. The medullary tissue should not be re-

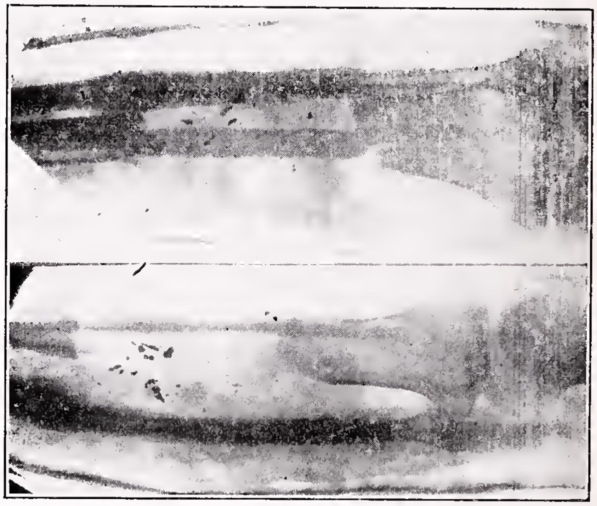

FIG. 10. All sclerosed bone has been removed and autogenous bone graft inserted across gap.

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moved but a sharp thick chisel, the size of the graft, is driven into both fragments at the junction of cortex with the marrow. The small peg is then inserted into this bed and is expected to function only as an internal stay. Fixation of the fragments is accomplished by external splinting. A more accurate terminology for this procedure would be an endosteal rather than an intramedullary graft.

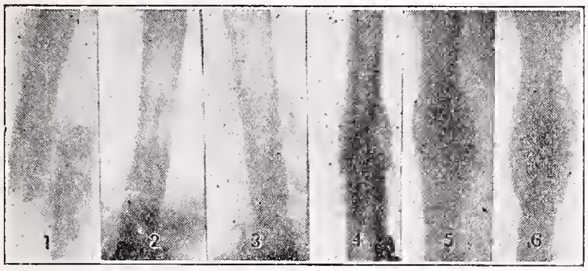

FIG. 11. 1. Transverse fracture middle third shaft of femur with union in vicious position. Treated by open reduction with inlay bone graft operation. 2 and 3. Anterior-posterior and lateral views three months after operation. 4. Roentgenogram nine months post-operative showing abundance of callous surrounding fracture. 5 and 6. Anterior-posterior and lateral views at the end of two years.

The technique of bone graft operations must be carried out with the most painstaking care. The bed into which the transplant is to be inserted as well as the field from which it is taken must receive careful preoperative preparation; even the slightest draining sinus is a definite contraindicaton for operating. The skin incision should be semilunar in shape and slightly to one side of the site of the transplant, so that should a skin infection develop drainage can be established before extension to the bone has taken place. The bed should be cut so that the graft fits snugly on all sides, avoiding free spaces for the accumulation of blood clots between graft and host. Strict asepsis much be adhered to for even though a bone graft sometimes successfully heals in spite of a mild low grade infection, the presence of excessive blood clot or infection will most likely prevent an early adhesion of the graft and as a rule results in death and sequestration, thereby defeating the whole purpose of the operation. Because of the rather marked danger of perforating a glove on a sharp spicule of bone, it is our practice to employ only instrumental technique in performing the operation; using instruments to sponge, to handle the transplant and to tie all deep sutures.

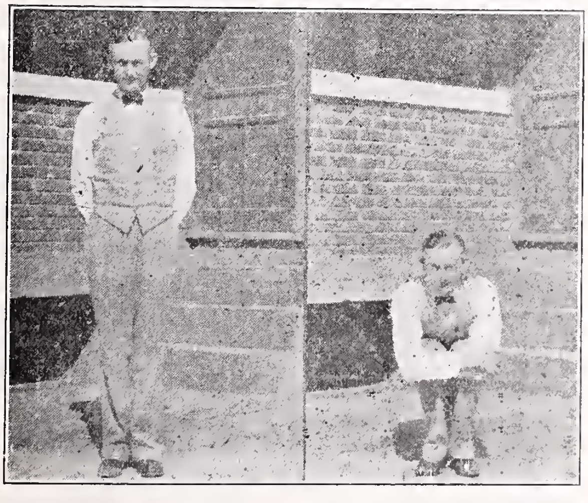

FIG. 12. Same patient as Fig. 11, showing functional result two years after operation.

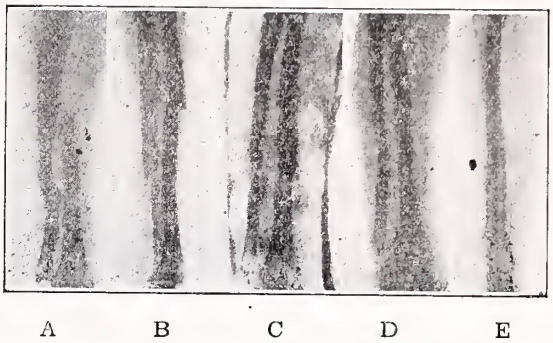

FIG. 13. A and B, anterior and lateral views of multiple fractures of forearm immediately after injury. Much destruction of soft tissues. Wounds healed with non-union of all fractures. C. A.-p. view made through cast five weeks after bone graft operation. D. and E, a.-p. and lateral views nine months after operation. Firm union of all fractures.

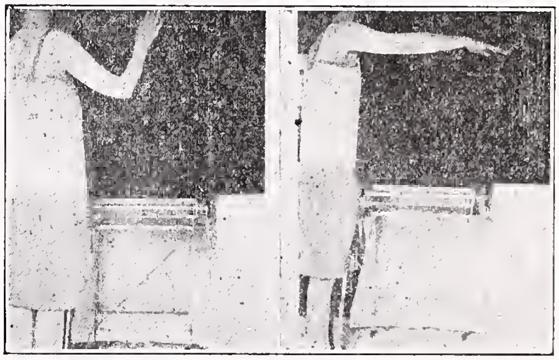

FIG. 14. Photograph of arm nine months after operation.

REPORT OF CASE

(With cuts illustrating regeneration of middle third shaft of tibia following resection for bone tumor)

History—G. T., a white boy, age 12 years, called at the Clinic on February 24, 1927, complaining of a painful swelling in the middle third of the left leg.

The onset of the condition was on September 4, 1926, with a dull aching pain in the leg following a long day of walking. There was no swelling in the leg at that time. After this date the patient suffered with intermittent pain in the leg, which gradually increased in intensity until two months later a slight swelling was noticed. No history of injury was elicited. Upon the first visit to the clinic the pain was constant, being more severe, however, at night, and a definite tumor was observed. Prior to this time the patient was confined to bed for a period of two weeks at the suggestion of his family physician. The results of this rest were quite disappointing, as the pain was more severe than when he was up and on his leg. The past history was negative. There were no symptoms referable to the circulatory, respiratory, gastro-intestinal, genito-urinary or nervous systems.

On physical examination one noted a well developed, fairly well nourished white male, not acutely ill. The pupils were equal and reacted to light and accommodated. The conjunctiva were normal in color. The teeth were good, tonsils normal in size, and the throat was not inflamed. The lips were moist and normal in color. The ears were negative to external examination, and not discharging. The cervical lymph nodes were not palpable. In the chest the respiratory motion was free and equal, breath sounds were normal and clear. The apex of the heart was in the fifth interspace about 8 cm. from the mid-sternal line. The cardiac impulse was normal in force and rhythm. No murmurs and no accentuation of the valvular sounds were detected. The abdomen was normal in contour, with no tenderness, rigidity, or palpable masses. The liver, spleen and kidneys were not palpable.

The left testicle was undescended, the left inguinal ring enlarged, but with no protruding hernia. Otherwise the genital organs were negative.

There was a non-pulsating, spindle-like swelling, completely occupying the middle third of the left tibia, about 1 cm. in depth. The skin overlying this area was normal in appearance. The tumor was of bony consistency, slightly tender on deep pressure. The margins were smooth and the soft parts not adherent. The range of motion in ankle and knee was normal and not painful. The inguinal lymph nodes were not palpable.

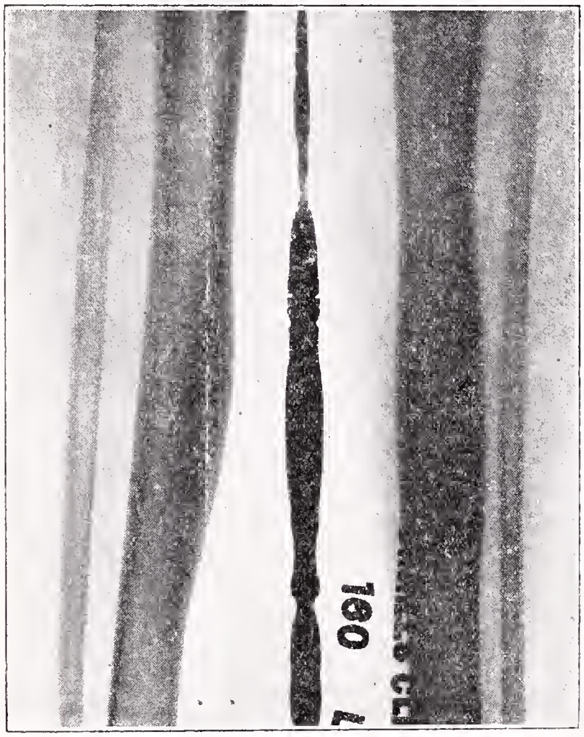

FIG. 15. Anterior, posterior and lateral x-ray views of tumor before resection. Note absence of periosteal involvement and presence of marrow throughout tumor in lateral view.

X-ray examination of the chest was negative; of the tibia showed a dense mass involving its entire middle third. In the anterior-posterior view the medullary cavity was completely obliterated, while in the lateral view one could see a small amount of marrow along the posterior surface of the cortex. The margins of the tumor were smooth and regular, the periosteum apparently uninvolved. The Wassermann was negative; urinalysis negative; red cell count and hemoglobin normal; white cell count 10,500, with 68 per cent polymorphonuclear neutrophiles.

The temperature was 99 degrees, pulse 90, and respirations 20.

The diagnosis was sclerosing non-suppurative osteitis of Garre.

Treatment—The patient was kept under observation for a period of six weeks to note development and for further study. During this time limited functional activity was advised and he was given daily treatments with the ultra-violet lamp. Pain in the leg decreased, but there was a noticeable increase in the size of the growth. On April 7 the entire thickness of the involved portion of the tibia was removed subperiosteally, and replaced by an autogenous bone graft from the other tibia. The part was held in normal position by a plaster of paris cast for a period of several months, after which time a brace was applied. At operation the soft parts and periosteum were found to be entirely normal, the periosteum stripping from the cortex with ease. The patient had an uneventful convalescence. The wounds healed by first intention and there has been no further pain in the leg.

X-ray examination made two months after operation showed the graft to be in good position, with deposit of a considerable amount of callus surrounding it. Still further regeneration was noticed in x-ray pictures made four months after operation, and at the expiration of two years the tibia had entirely regenerated. Function of the extremity was normal. There was no pain in the leg and no evidence of recurrence of tumor.

The most important differentiation to make in this case, as in all bone tumors, is between the benign and malignant. Before attempting this differentiation the surgeon should familiarize himself with all varieties of bone tumors, studying their clinical, radiological and gross and microscopic characteristics.

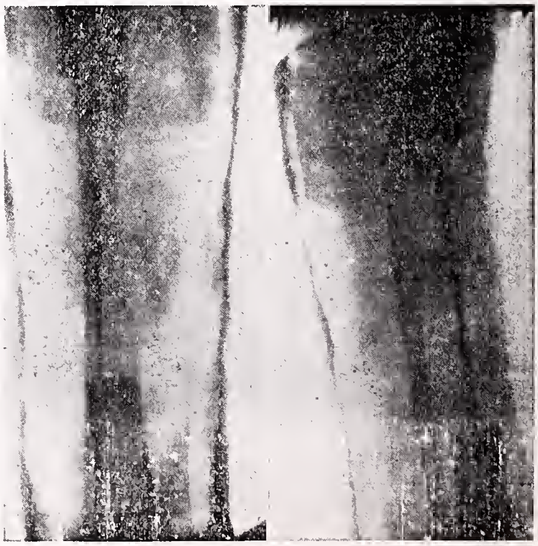

FIG. 16. Anterior, posterior and lateral x-ray views made through cast six weeks after resection.

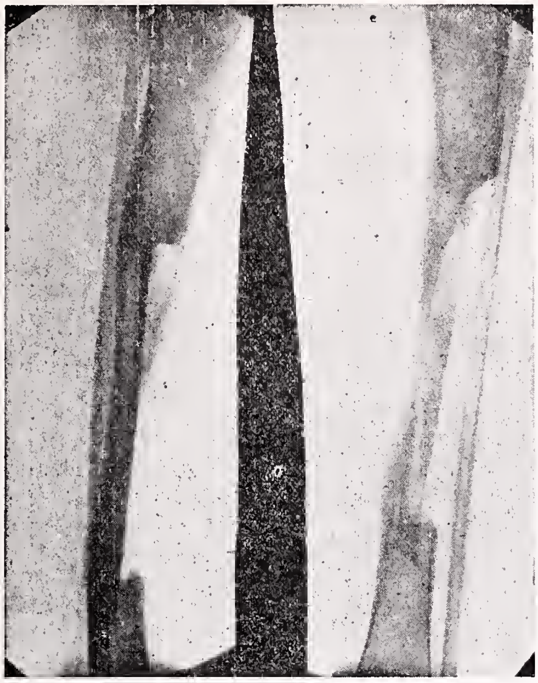

FIG. 17. X-ray appearance three months after operation.

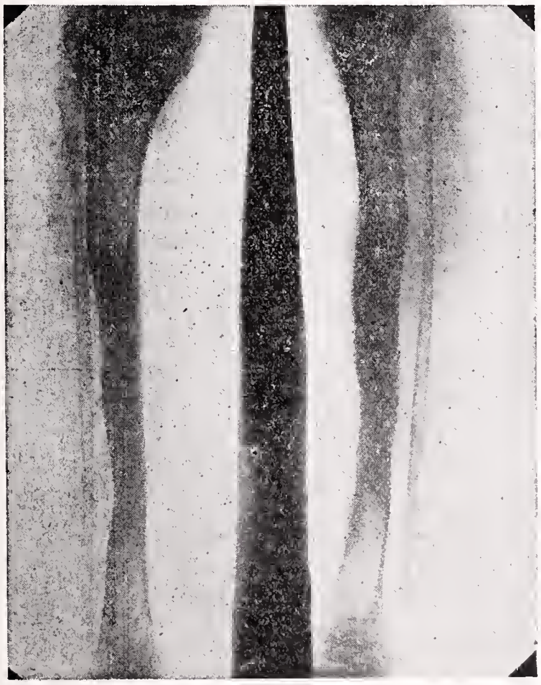

FIG. 18. X-ray made eight months after operation.

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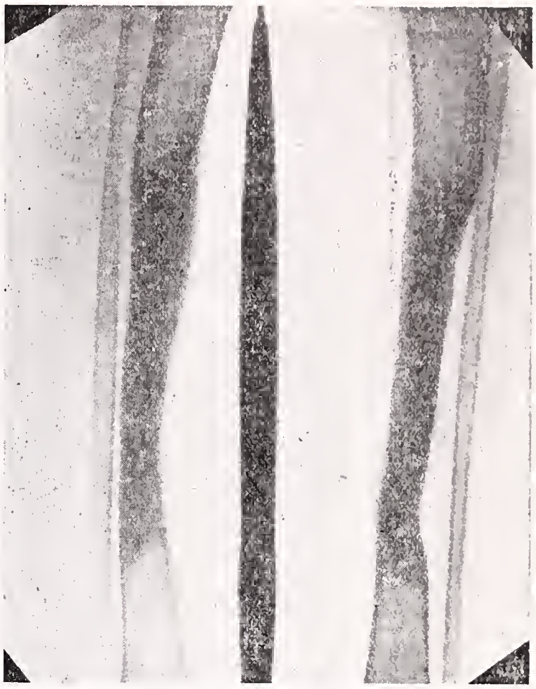

FIG. 19. X-ray made one year after operation.

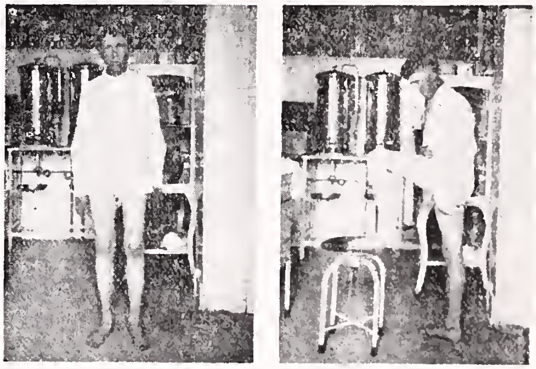

FIG. 20. Photograps of patient one and one-half years after operation.

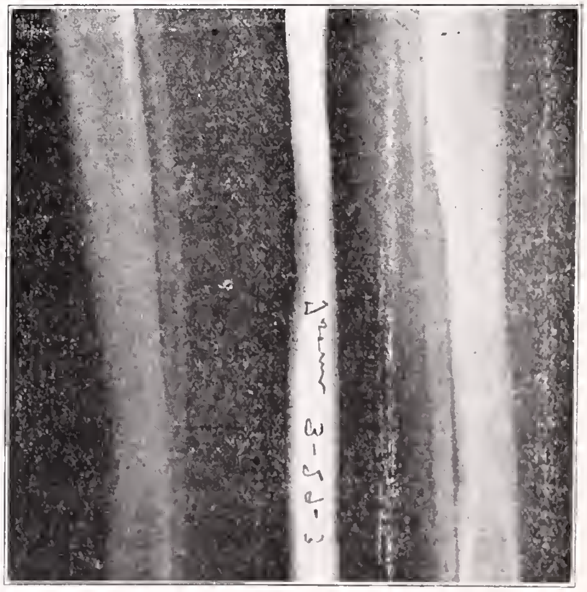

FIG. 21. Anterior-posterior and lateral views three

years after operation showing complete regeneration of resected tibia, (Note well formed marrow canal).

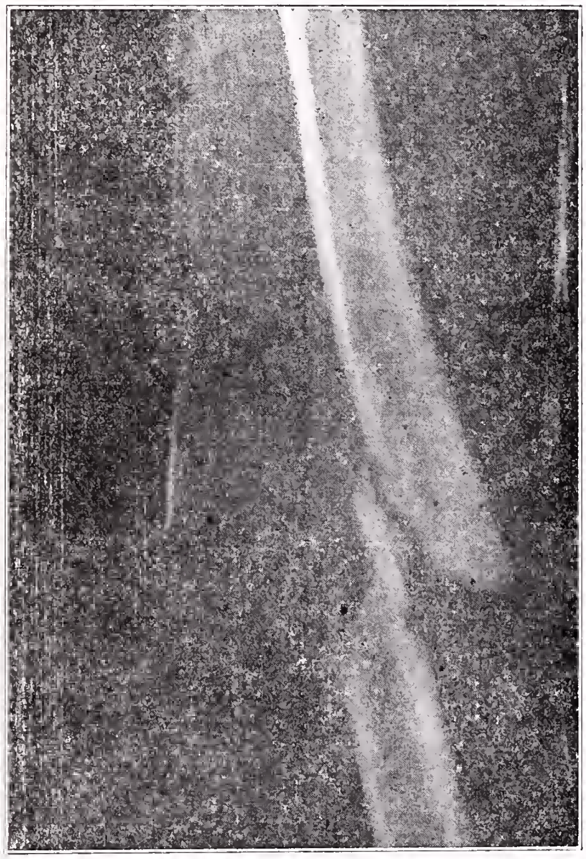

FIG. 1 A. Fracture middle third of humerus five and one-half months duration. Wide separation of fragments and non-union.

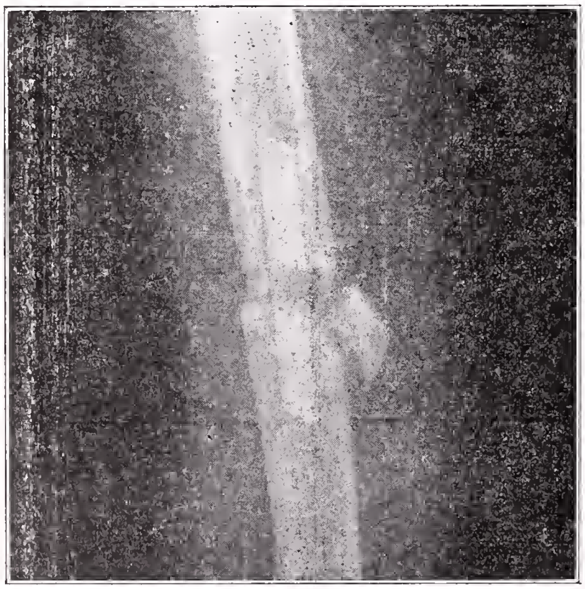

FIG. 1 B. X-ray made six weeks after bone graft operation (Note graft bridging fracture and callus formation).

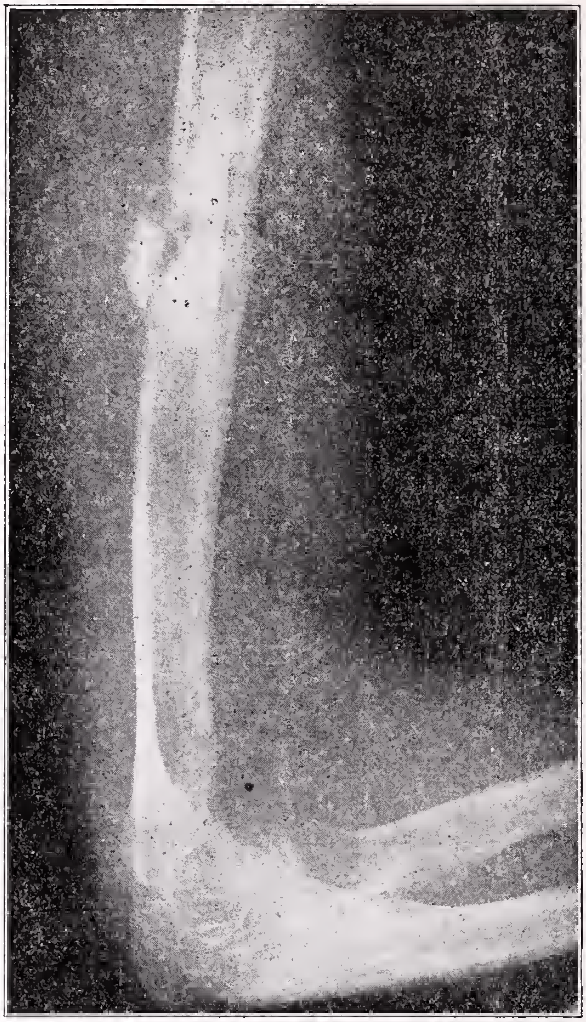

FIG. 1 C. X-ray made three months after operation. Union complete (Note fibrinous ankylosis elbow joint).

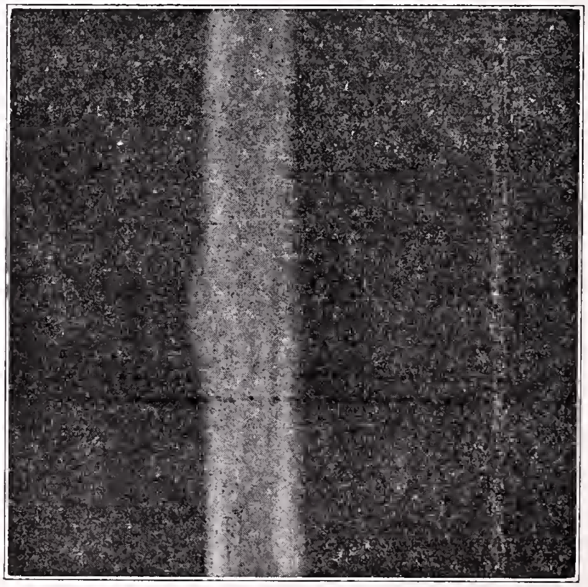

FIG. 1 D. X-ray made three years after operation showing firm union with reformed marrow canal.

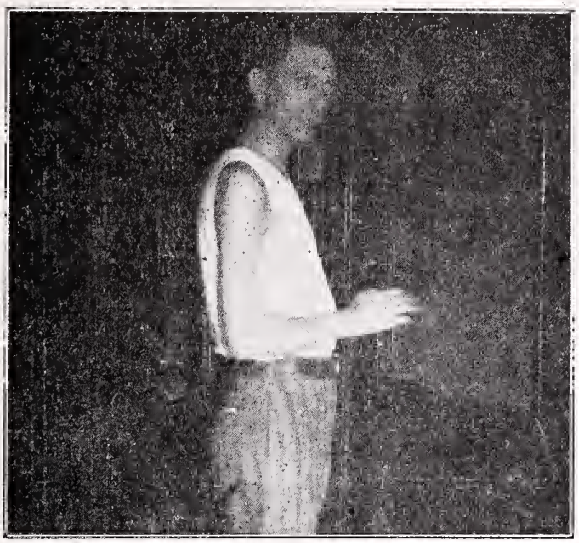

FIG. 2 A. Photograph made three months after operation (Note atrophy in muscles of arm and forearm, due to dis-use and vicious position of fragments).

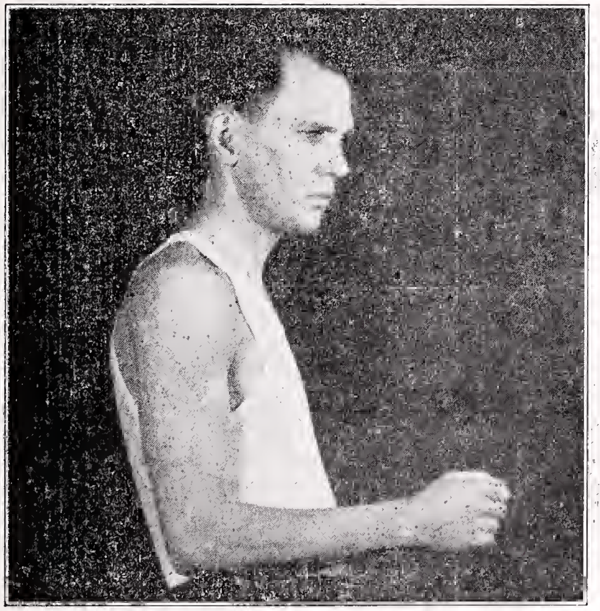

FIG. 2 B. Photograph made three years after operation. At this time patient had developed full range of motion in his elbow joint (Note muscular development in arm and forearm).

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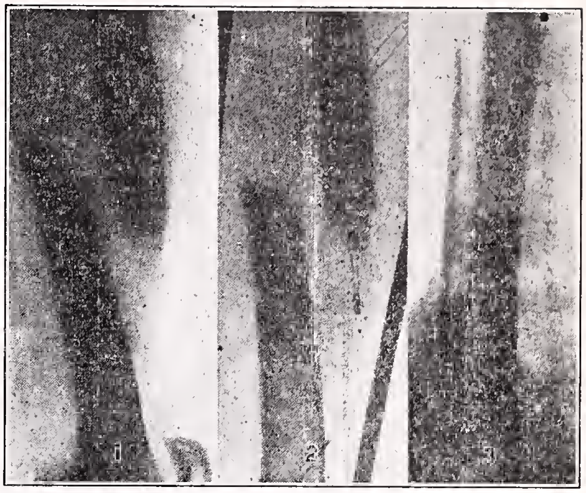

FIG. B 1. 1, fracture shaft of femur with marked displacement of fragments three months after injury. 2, same with traction applied. 3, Roentgenogram showing onlay bone graft in place two months after operation.

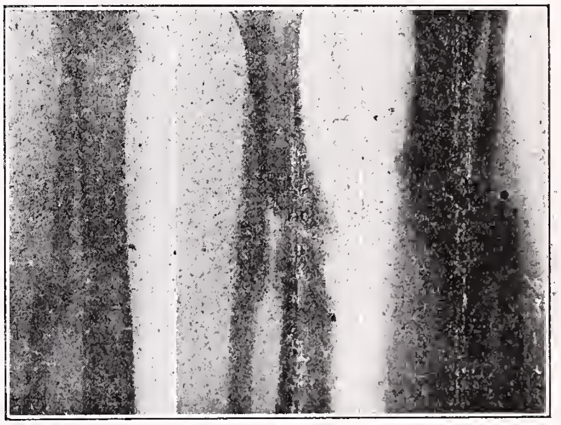

FIG. B 2. (a) and (b) anterior-posterior and lateral views of old compound fracture with typical non-union nine months after injury. Soft tissues entirely healed. (c) lateral view after operation, showing graft in place.

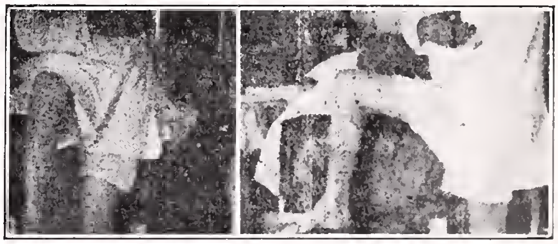

FIG. B 3. Photograph one year after operation.

CONCLUSIONS

1. Because individual tissue cells possess a life independent of the life of the organism as a whole, free living tissue grafts may be transplanted from one site within the body to another.

2. The autogenous graft is by far the most satisfactory material that can be used in the correction of any bone lesion requiring internal fixation, stimulation or replacement of bone substance.

The choice of graft to be employed depends upon the type of lesion to be treated. The inlay graft being the method of choice when possible, the onlay is usually quite as satisfactory when the massive graft is employed. The intramedullary graft should never be used when osteogenesis is desired from the transplanted bone.

4. Infection following bone graft operations usually results in failure.

5. By the use of the bone graft operation many crippling diseases may be cured, and many hitherto useless extremities may be converted into useful functioning and sometimes even normal members.

Our Public Health Program

BY FELIX J. UNDERWOOD, M.D.
Executive Officer Mississippi State Board of Health
Jackson, Miss.

The people of Mississippi have for several years enjoyed a condition of good health not previously attained for any great population group of diverse races. This is not an accident of good fortune, nor an unearned asset of favorable climate or location.

The consistent continuous use of the medical and associated sciences is largely responsible for the present high level of health among the people of this State, their entire freedom from certain pestilential diseases prevalent in former times, and the progressive reduction in the spread of epidemic disease still commonly experienced.

"The American Public Health Association, believing that the present high state of health of the citizens of the country is in a large measure the result of public interest in personal and public health developed through the work of state and local health departments, and believing further that sound national recovery demands the continuation of state and local public health activities on a comprehensive basis, providing at least for the minimum essentials of health protection and promotion, has set down the following fundamental principles of program, administration and organization which may be used as a guide to health officers and other interested persons. These essentials as expressed should be considered as minimum requirements compatible with the preservation and promotion of public health. The conservation of the health and the welfare of the citizens are conceded by all authorities on political science to be inherent duties of the modern state, although the obligation may be delegated in part to its political subdivisions.

The American Public Health Association calls upon the appropriate legislative and executive officers of the national, state and provincial authorities, and upon the rural and urban local governments of the populations of this continent to reinforce the movement of recovery, now gathering momentum, by taking such action as will secure the continued improvement in the people's health upon which alone permanent security and happiness of life is founded."

A modest but adequate health program for our people can be guaranteed if the following basic principles of work are observed.

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responsibility should be vested in a full-time trained health officer appointed on professional qualifications and secure against political interference or dismissal during competent performance; he should receive a salary equivalent to the income of physicians or other professional men of equal training and commensurate with the public responsibilities placed upon him; he should not engage in any other gainful occupation inconsistent with the proper conduct of his office and should be required to give his whole time to the duties of his office; annual appropriation for official health work totalling at least $1.00 per capita of population served should be provided for the minimum activities hereafter described and exclusive of hospital services; freedom for the health officer to select trained personnel for medical, nursing, sanitary, laboratory and statistical activities from lists of persons of proved competence should be assured.

With such leadership and resources there should be undertaken a program of activities which will include at least:

I. THE CONTROL OF COMMUNICABLE DISEASES

Today, communicable disease is still a basic activity of all public health work. Health departments will stand or fall in the confidence of the general public by their efficiency in resisting epidemics. Practical application still lags far behind definite knowledge already attained which would enable physicians, public health authorities and an enlightened public, working intelligently together, to make much greater progress in the control of many communicable diseases and to eradicate others as public health problems.

Specific reponsibilities of the health departments include provision for the reporting of cases, the isolation of patients and immunization. With regard to the venereal diseases and tuberculosis, the responsibility must also include the provision of diagnostic clinic and laboratory service. In tuberculosis, this must also include X-ray service for diagnosis and checking of progress as well as sanatorium care.

II. THE PROMOTION OF CHILD HEALTH

The modern conception of an adequate child health program includes provision for prenatal care, infant welfare, preschool and school hygiene. Whether school health service is provided by the board of health or by the board of education, there should be provision for collaboration between these two departments to avoid duplication of services and conflict of authority.

Specific responsibilities of health departments include the stimulation of greater public interest in sound personal hygiene during the maternity period as well as during the infant, preschool and school years. In these fields as in the field of communicable disease control, the responsibility of health departments includes the demonstration of sound methods, the stimulation of public interest to attain such professional (medical and nursing) services as may be necessary and, where necessary, arranging for facilities for such individuals as cannot otherwise obtain these services.

III. OTHER ESSENTIAL AIDS

As essential aids in carrying out the two foregoing principal functions, health departments must assume the responsibility for laboratory service; the control of environmental sanitation; the recording, tabulation and analysis of births, deaths, and sickness; a general program of public education in matters concerning both public and personal health.

A. LABORATORY SERVICE

A well organized public health laboratory is one of the foundations of effective health work and is an invaluable means of coordinating health activities.

Specific responsibilities of health departments include the building up and maintaining of a laboratory service which will provide assistance to practicing physicians and departments of health in the diagnosis of communicable disease. Such a laboratory will be an important factor in stimulating friendly relations between physicians and the health department by providing an expeditious and reliable diagnostic service.

B. SANITATION

In the field of sanitation the specific responsibilities of health departments include:

1. Safeguarding all water supplies, both public and private, commercial or household, so that the purity of the water for dietary, cleansing or recreational use may be universal.
2. Securing the sanitary disposal of human wastes in a manner to avoid nuisance, and prevent the pollution of foods or water supply.
3. Supervision of the production and distribution of milk, and milk products, by licensing, inspection and laboratory tests, to prevent the sale of any but a clean wholesome milk of standard food value.
4. Supervision of the production, processing and distribution of food stuffs, including shellfish.
5. Supervision of the environmental sanitation of public camp sites, swimming pools and bathing beaches.
6. Control of mosquitoes, other insects, and vermin, such as may effect the public health.

C. PUBLIC HEALTH EDUCATION

Modern public health practice has shown how to prevent a large proportion of sickness and premature deaths. It is a responsibility of health departments to make this knowledge accessible to the average man, in a form which he can understand and make a part of his living. This may be accomplished through such channels as general newspaper or magazine publicity, the distribution and publication of books and pamphlets dealing with subjects of personal or community health, through lectures, personal and group demonstrations, using lay and professional staffs, through pictures and exhibitions.

The services of public health nurses professionally directed are indispensable for the proper performance of the functions of child hygiene, communicable disease control and public health education.

D. VITAL STATISTICS

Responsibilities of health departments include registration, analysis, and at least annual publication of births, deaths and notifiable diseases.

E. RESEARCH IN DISEASE PREVENTION

Maintenance of essential health services at a high level, and assurance of improvement in the critical quality of all that is done in the public interest requires that some of the time and attention of the personnel of each major division or activity of every health department be devoted to inquiry and research, so that the health department will be a source of new and accurate knowledge of preventive medicine as well as the agency through which long established facts of science are made practically effective.

STATE HEALTH DEPARTMENT FUNCTIONS

1. Supervision of local health activities.
2. Establishment and enforcement of minimum standards of performance of the work of health departments particularly in respect to communities receiving state aid for public health.
3. Enactment of regulations dealing with sanitation, disease control and public health, which have the force of law throughout the state.
4. Collection, tabulation and publication of vital statistics for each important political or health administration unit of the state and for the state as a whole.
5. Collection and distribution of information concerning preventable diseases throughout the state.
6. Maintenance of safe quality of water supplies and controlling the character of the disposal of human waste for all communities of the state.
7. Establishment and enforcement of minimum sanitary standards for milk supplies.
8. Prescription of qualifications for certain public health personnel.
9. Maintenance of a central and necessary branch laboratories for the standard functions of diagnostic, sanitary and chemical examinations; production of therapeutic and prophylactic preparations, and their free distribution for public health purposes; establishment of standards for the conduct of diagnostic laboratories throughout the state; laboratory research in the causes and means of control of preventable diseases.

RELATIONS OF STATE AND LOCAL WORK

The Association believes that local authorities should assume the primary responsibility for carrying out the program here recommended since the major part of direct service to people is preferably a local responsibility and should be rendered on a community basis. A permanent, efficient and economic solution of health administration of a state-wide basis can come only through the organization of local (county or city) health departments of sufficient size to make possible the employment of competent, technically trained executive heads who are responsible for the development of a sound comprehensive program and who devote their whole time and energies to public health work. Such a department should include the medical, nursing, laboratory, inspectorial, and clerical personnel necessary to carry on a complete program.

STATE AID

Public health is a primary responsibility of each local community, but it is indispensable that there be authority vested in the state department of health

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to assure to people of all communities that their health will not be jeopardized in the inertia, incompetence or neglect of local government.

Furthermore, public health problems are frequently more than local and there is wide divergence in the ability of local communities to meet the cost of adequate programs, and since in certain fields there is need of the assistance and guidance from highly trained staffs, the Association believes that the development of adequate public health services throughout the country depends upon state departments being equipped to stimulate and advise regarding local health work and to give a substantial amount of direct financial aid to such work.

HEALTH DEPARTMENT AS A LEADER

It is believed that a comprehensive and well coordinated public health program can exist only when the health department assumes the leadership in public health administration. The health officer is properly held responsible for the performance of such functions as are necessary to secure the maximum of health and longevity of which the people of his community are capable. This does not imply that all services for the protection and promotion of public health must be carried on as official health functions, but rather that the department shall recognize the need of services, participate in the planning, and insure the coordination of activities carried on by other agencies, official and voluntary, is an adequate plan of health service applicable to the entire community.

RELATION OF PRIVATE PHYSICIAN

A good family physician called upon to guide the household in health as in sickness is the best investment the private individual can make for health. If all families availed themselves of the knowledge and skills of their physicians to secure health as they now do to get relief from sickness there would be less burdens of preventive medicine for the health department to carry.

Physicians in private practice perform a service in the treatment of disease, whether as individuals or in fully organized groups, whether in private offices, clinics, hospitals, or homes, which is an accepted phase of medical care in this country, for those able to pay for such service. Although physicians in private practice, because of their training, numbers and relationships to their clientele, constitute the one group which is potentially most capable of applying the lessons of preventive medicine to the habits and circumstances of the individual, the public generally is not yet accustomed to demand or pay for such guidance in the application of the principles of preventive medicine.

For these reasons an honest, consistent, and cooperative effort should be made by the health authorities, the organized medical profession, and private groups interested in public health to develop public demands for preventive services by private physicians whether practicing as individuals or in organized groups. Health conference or preventive health center medical services conducted by the health department, especially for babies and young children, are justified and desirable as:

1. A means of creating a demand for such services.
2. An agency for inaugurating proper standards for such services.
3. A practice ground for physicians in the art of preventive medicine.
4. A supplement to the preventive services of private practitioners.

Clinical Interpretation of Abdominal Pain; Surgical Urologic Consideration

BY THOMAS D. MOORE, M.D.
Memphis, Tenn.

Of all symptoms, pain is most important because it will induce a patient to seek the services of a physician; other symptoms, unattended by discomfort, may be disregarded entirely. There are comparatively few pathological conditions affecting the upper urinary tract which are not accompanied by pain at some time in the course of their development. Lesions of the kidney and ureter, especially if obstructive in nature, give rise to pain more or less typical in character and location. Not infrequently, however, pain is atypical and may simulate the pain arising from an intra-abdominal lesion and if one is not careful in eliciting the history of the case an erroneous interpretation may be arrived at occasionally resulting in the surgical exploration of the abdomen with negative findings.

Some of the more common causes of abdominal pain originating in the urinary tract are as follows: Lithiasis, either renal or ureteral; hydronephrosis; renal tuberculosis; neoplasms of the kidney and certain renal anomalies, especially horseshoe kidney and ectopic kidney; spastic ureteritis; and ureteral stricture.

Lithiasis. Stone is the most common cause of renal colic. The character, location, and severity of the pain in a typical attack is familiar to all. When the radiation of pain is unusual, as so often occurs, its clinical interpretation may become difficult. This is evidenced by the fact that in a study of the records of 450 patients having nephrolithiasis, Braasch found that 143, or practically one-third of the total number, had had previous laparatomies performed for relief of the pain. It is of interest that 21 of the patients with stone in the left kidney had had previous operations on the appendix or gall-bladder. A large stone in the renal pelvis may be silent or it may give rise to dull pain, referred anteriorly beneath the costal arch. If it is on the right side, it may easily lead to a suspicion of gallbladder disease. Small stones in the renal pelvis producing intermittent obstruction, or those passing into the ureter with complete or partial obstruction, are more apt to precipitate a violent attack of colic. The discomfort may be referred to the region of the epigastrium or the umbilicus. If the calculus becomes impacted in the lower ureter it may initiate a periureteritis associated with dull pain and local tenderness in the lower quadrant. Pain arising from stones in the lower ureter may radiate upward rather than downward. If the obstruction is complete, the urinalysis may be negative and become misleading. In cases seen late, the character and location of the pain are much less informative than the information gained from a detailed history of the character of the pain experienced at the onset, for example: Sometime ago, R. C. D., a man of 52, was referred from a distant town for an enterostomy with a diagnosis of acute intestinal obstruction. The abdomen was greatly distended; nausea, vomiting, and obstipation had been present for seventy-two hours. At the time of his admission to the hospital he presented the classical evidences of intestinal obstruction. The abdominal pain was moderately severe and diffuse. In obtaining the history, however, the surgeon noted that at the onset the pain began fairly suddenly in the right loin, felt more posteriorly. The urine contained pus grade iii and blood grade ii. Following up these clues, a plain roentgenogram was made and reported negative. He was referred for an emergency cystoscopic examination, which revealed a complete obstruction of the right ureter, 1 cm. above the orifice, with an absence of secretion. A stone 2 mm. in diameter was removed cystoscopically followed by rapid convalescence. This was an instance of reflex ileus, which occasionally occurs with ureteral obstruction. Thomas noted this phenomenon three times in 50 patients with ureteral stones. The most common example of abdominal distention, originating from causes in the urinary tract, is seen in the early postoperative course of patients treated surgically for lesions of the kidney or ureter.

Hydronephrosis. Hydronephrosis of the intermittent type is frequently due to a high obstruction of a congenital type. This condition is not an uncommon cause of pain, which may be pronounced in the upper quadrant of the abdomen. The pain is more often referred to the kidney area, but it has been estimated that in about 15 per cent of the cases, it is referred to the anterior upper quadrant or even as low as the umbilical level. In such cases if the subjective symptoms alone are considered, it is often impossible to differentiate hydronephrosis from disease in the gallbladder and appendix. Illustrative case: Mrs. F. J. D., age 35, complained of attacks of pain localized in the upper abdomen on the right side. The pain was described as colicky, occasionally sufficiently severe to require an opiate for relief and associated with nausea and vomiting. The attacks began about eight years before and two or three a year were usual until the past year, when the interval between attacks had become much shorter. Two years before removal of the gallbladder had been advised but refused. At the last attack, which began three days before, she developed fever and urinary frequency. The catheterized specimen contained much pus. There was marked tenderness in the right upper quadrant and posteriorly in the renal area. A plain roentgenogram was negative. Cystoscopic examination disclosed a right hydronephrosis of 205 c.c. capacity,

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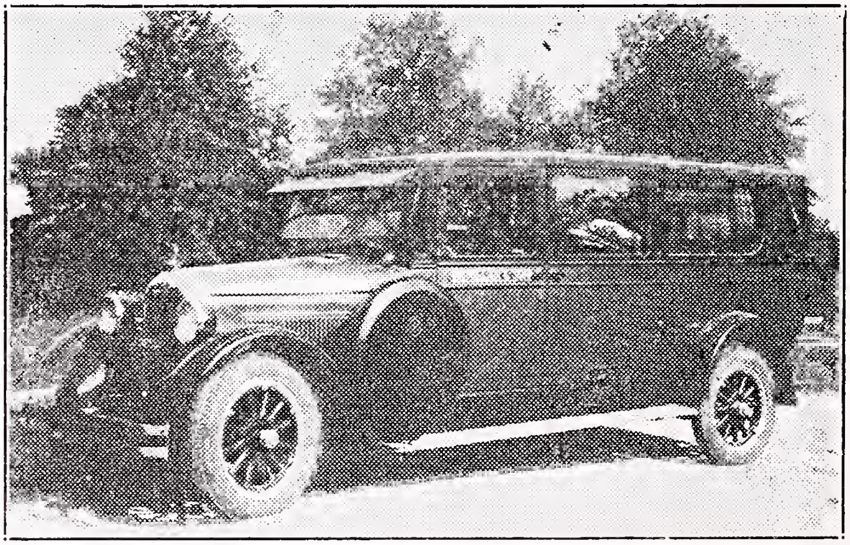

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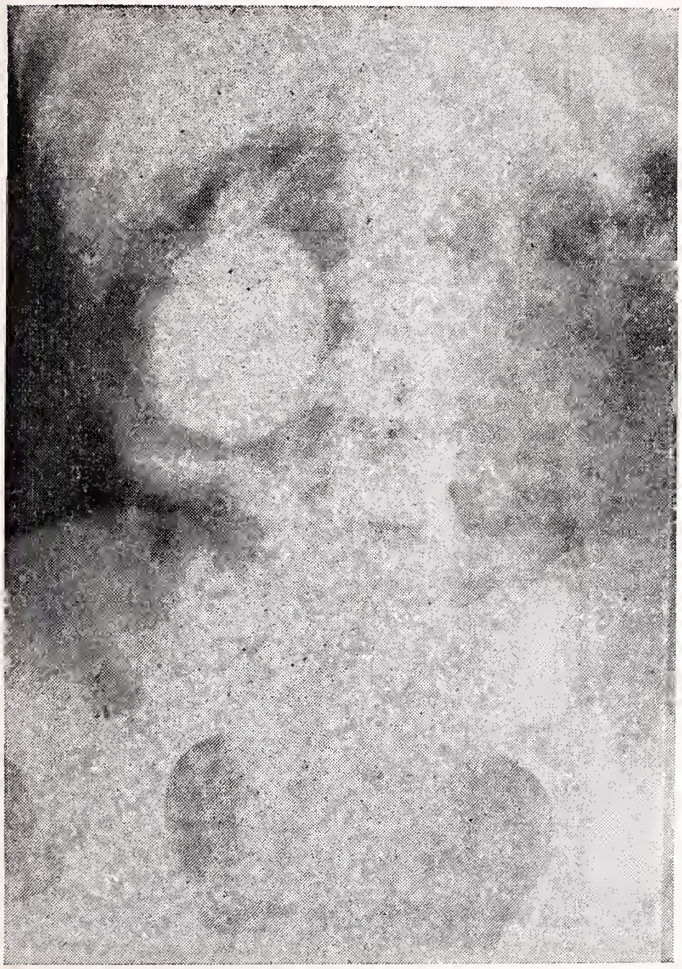

FIG. 1. Right hydronephrosis of 205 cc capacity. The attacks of pain were referred anteriorly beneath the costal arch and closely simulated the symptoms of disease of the gall bladder.

A nephrectomy was performed, since when she has remained well. In a study by Braasch of 116 cases of intermittent hydronephrosis, the presence of gross pus in the urine was noted in only 10 per cent. The plain roentgenogram of the region of the urinary tract is practically always negative. In those cases with pain localized in the anterior upper quadrant with a negative urinalysis and a negative roentgenogram, it is apparent how easily the condition can be confused with intra-abdominal disease. Only by the most painstaking study of the case, with particular reference to the gastro-interstinal tract, cholecystography, and complete cystoscopic data will the true condition be revealed. In such cases, again a negative urinalysis and negative roentgenogram become misleading.

Other pathological conditions involving the kidney, which occasionally give rise to abdominal pain, are tuberculosis, neoplasms, and anomalies. With tuberculosis the abdominal pain is usually due to the secondary involvement of the ureter; in most cases the distressing symptoms of a tuberculous cystitis leads to the correct diagnosis.

In those cases of renal tumor with pain referred to the abdomen, the mass is usually palpable and frequently there is a history of gross hematuria of an intermittent type.

In considering renal anomalies, horseshoe kidney and ectopic kidney are often associated with abdominal pain. The incidence of horseshoe kidney is greater than is generally supposed. Of 73,489 postmortem examinations reported by Motzfield, the anomaly was present 92 times or one in every 710. In 108 collected cases of horseshoe kidney studied by Rathbun, abdominal pain was the only symptom in 31. As pointed out by Rovsing, the pain may be exaggerated by hyperextension of the spine. The rigid muscles of the back cause an increased pressure on the isthmus of the kidney, where it crosses the vertebrae with an exaggeration of the pain. In thin subjects the isthmus may be felt near the region of the umbilicus. In any case with an indefinite mass in this region, the possibility of a horseshoe kidney should be considered. Ectopic kidney is not to be confused with movable or floating kidney, the difference being that in renal ectopia the organ failed to ascend in embryonic life and derives its blood supply from the nearest vessel, usually the iliac artery. The most common site of an ectopic kidney is the hollow of the sacrum. Guizzetti and Pariset reported 18 cases in 20,000 post mortem examinations. If the kidney remains healthy it may cause no symptoms whatever; however, the ureter is very short and often angulated and the anomalous organ is more susceptible to disease. It may cause pain, localized in the lower abdomen, and in women the symptoms may closely simulate disease of the uterus and adnexa. It occurs about twice as often on the left side as on the right. The most common error in diagnosis in the male has been in differentiating it from inflammation of the appendix. Illustrative case: Mrs. E. L. C., age 39, complained of pain in the lower abdomen, on the left side which began six years before. The pain was aching in character, occasionally referred to the left hip and thigh. It had been much worse in the past year. During the birth of her only child, nine years before, there was agonizing pain referred to the left hip and thigh. Four years before elsewhere a diagnosis was made of chronic appendicitis. At operation the appendix was removed and a congenital absence of the left tube, ovary, and broad ligament is said to have been found. The pain persisted in spite of the operation. On examination the urine was negative and a plain roentgenogram of the region of the urinary tract was negative. Cystoscopic examination and pyelography dis-

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closed the left kidney lying in the hollow of the sacrum.

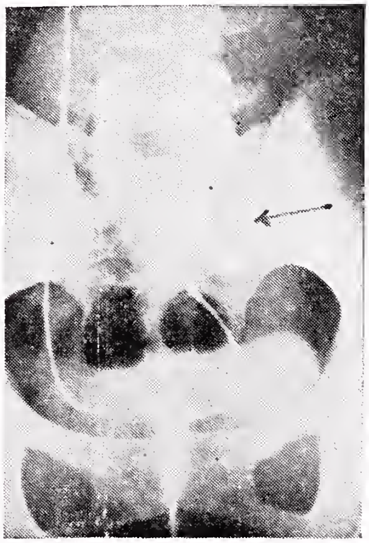

FIG. 2. Left ectopic kidney lying anterior to the sacrum. The right kidney was in its normal position.

Although the kidney was functioning normally and was not grossly diseased, its removel was advised. She has been entirely free of pain since the organ was removed.

Ureteral stricture and ureteral spasm. Pain caused by stricture of the ureter or spastic ureteritis is usually felt in the lateral abdomen, associated with local tenderness. It is constant, seldom colicky, and, if the obstruction is marked, pain is also felt in the region of the kidney. Hunner, in 1910, first called attention to non-tuberculous stricture of the ureter as a clinical entity and concluded from his investigations that it is a very common cause of pain in the lower lateral abdomen. There has been much difference of opinion as to the incidence of ureteral stricture, other investigators being as firm in their belief that the condition does not exist as commonly as some writers, including Hunner, would have us believe. Serial pyelography has revealed that Hunner's chief diagnostic sign, the hang of the bulb on withdrawing it from the ureter, often is due to local spasm rather than stricture. In the differential diagnosis the two conditions most commonly confused are disease of the appendix and of the uterine adnexa. In a high percentage of Hunner's cases, surgical treatment of these structures had not afforded relief of the pain. During the past two years, in those cases presenting symptoms suggestive of ureteral stricture, it has been my practice to make serial pyelograms before and after the passage of a bulb through the ureter. It has been noted that the ureter is much more sensitive in some individuals than others, and in such cases the series of pyelograms made after withdrawing the bulb disclosed marked spasm of the ureter, evidenced by points of constant narrowing which did not exist in the series of pyelograms made before passage of the bulb.

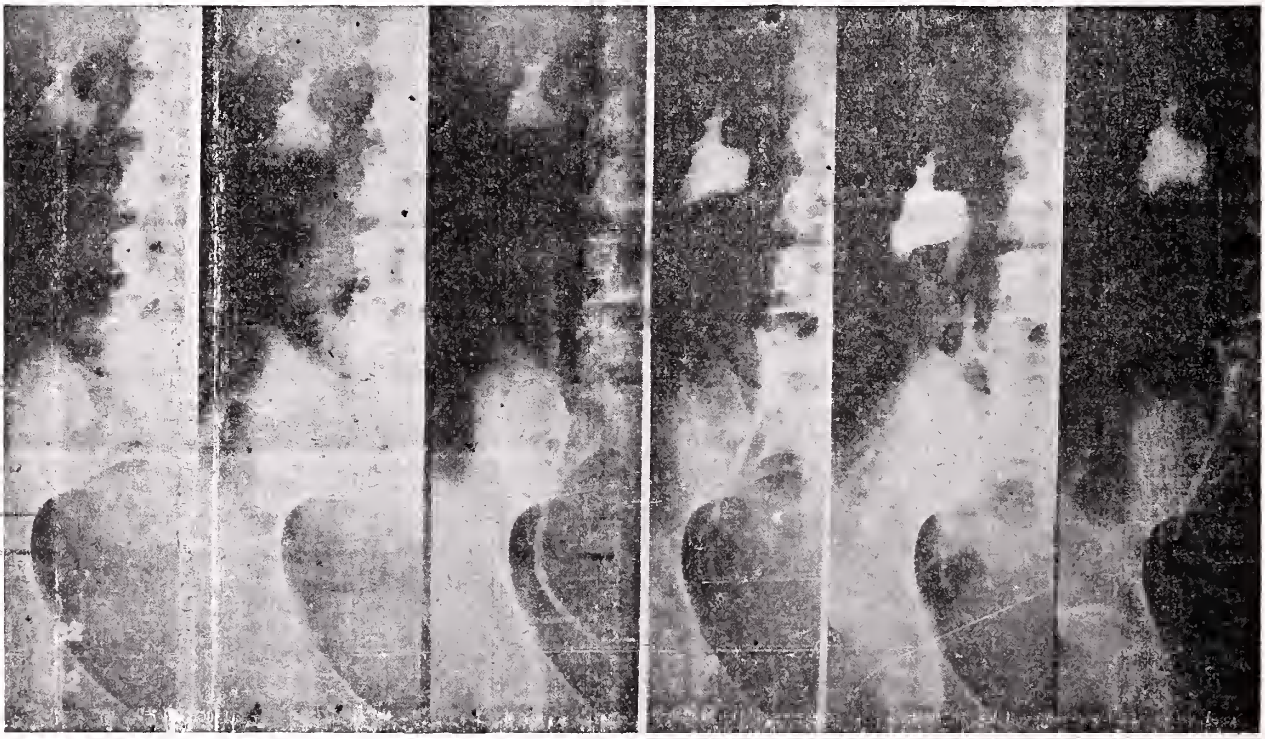

FIG. 3. Note the normal ureter in the first series following the insertion of a No. 5 F. catheter. The second series, made immediately after employing a No. 12 F. bulb catheter, disclosed constant marked points of narrowing from ureteral spasm.

The hang of the bulb on withdrawal may be very marked in such cases. It is obvious, however, that a diagnosis of stricture of the ureter would not be justified; spastic ureteritis would be a preferable term. The majority of such patients are relieved for varying periods by dilatations of the ureter. In most instances the pain in the abdomen is associated with moderate frequency of urination; the latter symptom should lead to an investigation of the urinary tract before concluding that an intra-abdominal lesion exists.

Conclusion. In the consideration and the interpretation of abdominal pain of obscure origin, the possibility of a lesion in the urinary tract always should be borne in mind. A careful history of the character and location of the pain at the onset is important. When there is good reason to suspect that abdominal pain may have its origin in the urinary tract one should not be satisfied with less than a thorough urologic investigation. A negative urinalysis and negative roentgenogram cannot be relied upon to exclude disease in the urinary tract; experience has proved in many cases that these negative findings in such a limited examination may be misleading. Only by the careful weighing and correlating of the symptoms, physical findings, and the laboratory data will errors in diagnosis be avoided. In spite of the best efforts to accurately interpret the significance and origin of abdominal pain occasional errors in diagnosis will undoubtedly occur, and for such errors I have no criticism of my friends engaged in general diagnosis and general surgery. Such errors are to be deplored, to be sure: At the same time it is just as deplorable for urologists to subject a normal ureter to repeated dilatations under the erroneous diagnosis of ureteral stricture. In any case proper and intelligent treatment depends upon an accurate diagnosis. The close cooperation of diagnosticians, roentgenogolists, neurologists, general surgeons, and urologists may be necessary in solving a problem of abdominal pain of obscure origin. Certainly the patient should have the benefit of the most careful consideration before the institution of surgical treatment and such efforts may be expected to reduce diagnostic errors to a minimum.

REFERENCE

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Physicians and Surgeons Bldg.
899 Madison Ave.,
Memphis, Tenn.

Book Reviews

Incurable romanticist he has been called, Dr. Franklin H. Martin, who wrote a two-volume autobiography which he elected to entitle **"The Joy of Living."** And the term is delightfully applicable when you are needing mental relaxation and an intensively interesting excursion into the romance of the lives of contemporary medical men. The books are written for the layman as well as those of the profession. The trials of the young doctor, the rewards for persistent application and service, the almost phenominal rise of this truly great surgeon and diplomat from an obscure Wisconsin country lad are so entertainingly portrayed to peruse these pages is enlightenment and adventure, with Dr. Martin himself, as it were, relating his story liesurely over a couple of cigars about your library fire. In all parts the volumes are highly readable, accurate and intimate. The reader feels as though he is being personally introduced to the great men whose careers make up the autobiography—the Mayo brothers, George W. Crile, William Crawford Gorgas, Frank F. Simpson, John B. Murphy—the members of the original board of regents of the American College of Surgeons, the chiefs in the founding of "Surgery, Gynecology and Obstetrics." They are all so faithfully presented, earnest in their endeavor for the advance of medicine and surgery, that the reader feels that he is touching shoulders with them right along their pathway of discovery and advance. The second volume throws an entirely new light upon the part the United States played in the World War. Dr. Martin tells a side of it that has probably never been related before. It is exciting and highly illuminative. It glorifies the American ideals of democracy for which the United States entered the conflict, from the medical point of view.

"The Joy of Living" belongs in your lobrary; it is a book you will cherish in its first edition, for it has a decidedly permanent place among the historical and biographical memoirs of eminent twentieth century physicians and surgeons. It is published by Doubleday, Doran & Company, Inc., Garden City, New York. Price 2 vols. $7.50.

Dr. Logan Clendening was a guest essayist at the Mid-South Medical Assembly last February, and those of his audience remember well indeed the clever, entertaining gentleman he was. Actually charming! In his recent book **"Behind The Doctor"** we have Dr. Clendening, the delightful narrator, who has dug up the spicy morsels about the forebears of the medical profession and sprinkled them all through his story, a charming story, colorful and authentic. Doctors think of medical history as something of a grind, achromatic and tedious, perhaps. But, with his unerring conception, his romantic point of view, his unequivocal ability as a story-teller he has given us by far the most readable account of the progress of medicine from the earliest efforts of prehistoric man to relieve epilepsy by trephining up through the marvelous developments of the past quarter century. It would seem that it is an indispensable book for the layman, but for the doctor it is worthy of a place in his most selective reading, a succour, for his professional genealogy.

"Behind The Doctor" can be had for $3.75. It is published by Alfred A. Knopf, New York City.

Dr. J. Shelton Horsley, of Richmond, Va., has an excellent book just off the press on **"Surgery of the Stomach and Duodenum."** His work covers the subject entirely, not an abbreviated diagnostic help and surgical execution, but it gives definite guidance in diagnosis—the unusual clinical symptoms, lesions causing the symptoms, correlating these and the operative procedure with physiologic facts. Dr. Horsley has made an intensive study of cancer and he has written his book mainly for a sound and practical guide for operative approach and actual technique. He deals minutely with the anatomy of the abdomen, taking his site tissue by tissue, part by part just as the surgeon meets them on the operating table. He illustrates clearly and often. Pre-operatvie and post-operative treatment, resection, excision when two or more organs are involved are given in detail. The **"Surgery of the Stomach and Duodenum"** is a masterpiece, a book you cannot well be without in this day of increasing death-rate from cancer, for which surgical excision is the only cure when in the stomach.

Published by C. V. Mosby Company, St. Louis, Mo., Price $7.50.

W. B. Saunders Company has Cecil's **"A Text-Book of Medicine"** ready in its third edition in 1664 It covers the entire field of internal medicine thoroughly. Dr. Cecil has revised his book, including the last word from 130 men who are universally recognized experts in their particular field. The material is so uniformly presented it is easily acceptable to medical student or general practitioner alike. The infectious diseases, diseases peculiar to each or all of the seven systems and diseases of the ductless glands receive detailed attention, concretely and simply presented, from definitions to treatment. **"A Text-Book of Medicine"** is emphatically a working book for the general practitioner. No finer book, or set of books, would serve in the office, the laboratory or at the bedside.

Published by W. B. Saunders Company, Philadelphia, Pa. Price $9.00.

The laboratory is as necessary nowadays at the inland village doctor's office as it is in the highly specialized clinic in the city. There are at the general practitioner's service books which he can use daily in his field of work which compels him to diagnose the emergency operative case as well as diabetes or glandular disorders. And he knows that his laboratory is the sheet anchor of his daily practice. Dr. Max Trumper and Dr. Abraham Cantarow have prepared a splendid work on technic and interpretation of laboratory procedure. **"Biochemistry In Internal Medicine"** correlates the facts of physiology and biochemistry and interprets them so definitely that the most problematical cases might be studied by the progressive physician. For after all, the country and small town doctor is in a better position to discover the significance of a disorder in the patient whose clinical history and physical condition he knows well, than the chemical pathologist to whom he might send his findings for interpretation. The discussions in this book are confined to problems commonly encountered in clinical medicine and the most generally used laboratory methods are employed. .A valuable and reliable book.

Published by W. B. Saunders Company, Philadelphia, Pa. Price $5.50.

Here's the book you've been hoping for, a book that covers the entire field of children's diseases masterfully for the general practitioner's use. **"The Diseases of Infants and Children"** is compiled by Drs. J. P. Crozer Griffith and A. Graeme Mitchell, and it is well worth two or three times its price of ten dollars. The authors give all the necessary background of the infant's early life, its care, feeding, clothing. They continue with the normal picture before discussing the characteristics of diseases of infancy and childhood, so that the symptomology and diagnosis are clear and easy. In concise form the diseases of the new-born, nutritional and miscellaneous diseases, and those peculiar to the various organs of the body are handled brilliantly. The book contains no whit of dryness or tedious abstractions. Frequent illustrations elucidate the discussions.

If the practitioner needs a pediatric atlas, a convenient and reliable reference for his everyday practice, no better one-volume work can be obtained than Griffith and Mitchell's **"The Diseases of Infants and Children."**

Published by W. B. Saunders Company, Philadelphia, Pa. Price, $10.00.

Local anesthesia is a subject of interest to every surgeon, even the general practitioner needs to use it almost daily for minor operations. A large per cent of major operations are done under local anesthesia. A combination of local and general is advisable in many cases. The surgeon of today must use local anesthesia. The desire of the patient urges it, his safety in many instances demand it. Local anesthesia requires many fine points of technique and care in the selection of the special anesthetic used. One of the most delightful, the most practical and the best balanced books for the general surgeon we have ever seen is the one by Hertzler and published by the C. V. Mosby Company. This book covers the fundamental principles in local anesthesia as relates to the fluid used, the needles and the syringe, the behavior of the surgeon in his relation to the patient. By numerous anatomical drawings the beginner can follow his technique and fear no evil.

Dr. Arthur E. Hertzler, M.D., Ph.D., F.A.C.S., is professor of Surgery in the University of Kansas. This book may be had from the C. V. Mosby Company, St. Louis. The price is only $5.00.

A scientific study of the elements and component parts of the blood is comparatively new. The interpretation of same and their relation to diagnosis still a more recent accomplishment. This has been done exceedingly well by Doctors Pepper and Farley in their **"Practical Hematological Diagnosis"** published by the W. B. Saunders Company. To the man who wants to know and to know why this book reads like a novel; the laboratory technique in this book is concise and easily followed, the descriptions for identification are very clear. This book is of great value to the laboratory technician and of still greater value to the diagnostician in medicine and surgery. You will want this book.

"Practical Hematological Diagnosis" by O. H. Perry Pepper, M.D., Professor of Clinical Medicine, University of Pennsylvania; Assistant Chief of the Medical Clinic, Hospital of the University of Pennsylvania; and David L. Farley, M.D., Physician to the Pennsylvania Hospital, Philadelphia; and to the Cooper Hospital, Camden, N. J.; Associate in Medicine of the University of Pennsylvania. 562 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1933. Cloth, $6.00 net.

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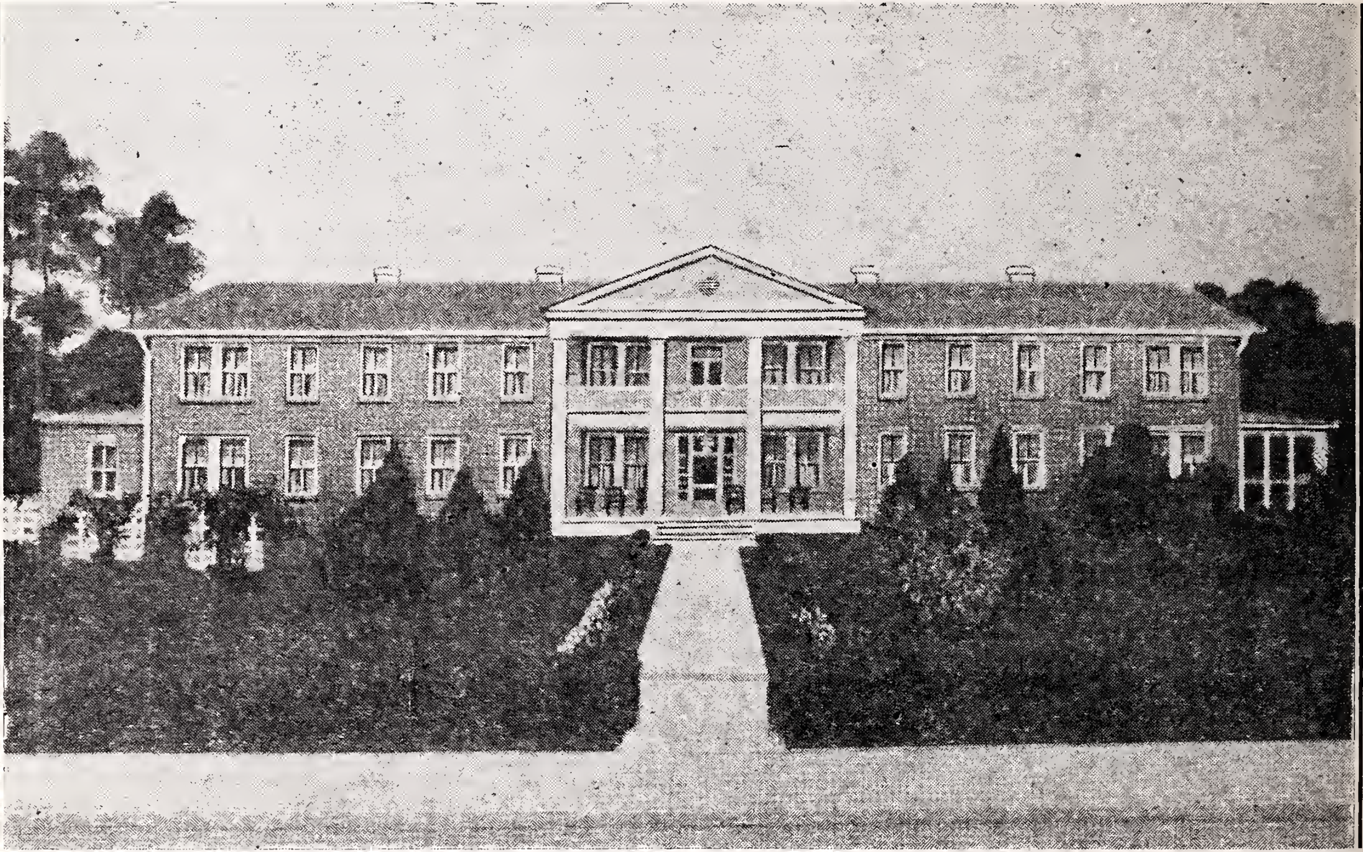

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MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 11 BOONEVILLE, MISSISSIPPI, MARCH, 1934 NO. 10

Dr. F. J. Runyon, Clarksville, Tenn., who presided over the last session of the Mid-South, its largest and most successful meeting.

LET ME WALK WITH THE MAN IN THE ROAD

(THE DOCTOR'S POEM—Editor)

'Tis only a half truth the poet has sung
Of the "house by the side of the way";
Our Master had neither a house nor a home,
But He walked with the crowd day by day.

And I think, when I read of the poet's desire,
That a house by the road would be good;
But service is found in the tenderest form
When we walk with the crowd in the road.

So I say, let me walk with the men in the road,
Let me seek out the burdens that crush;
Let me speak a kind word of good cheer to the weak
Who are falling behind in the rush.

There are wounds to be healed, there are breaks we must mend,
There's a cup of cold water to give;
And the man in the road by the side of his friend
Is the man who has learned to live.

Then tell me no more of the house by theroad,
There is only one place I can live—
It's there with the men who are toiling along,
Who are needing the cheer I can give.

It is pleasant to live in the house by the way
And be a friend, as the poet has said;
But the Master is bidding us, "Bear ye their load,
For your rest waiteth yonder ahead."

I could not remain in the house by the road
And watch as the toilers go on;
Their faces beclouded with pain and with sin,
So burdened, their strength nearly gone.

I'll go to their side, I'll speak in good cheer,
I'll help them carry their load;
And I'll smile at the man in the house by the way,
As I walk with the crowd in the road.

Out there in the road that goes by the house,
Where the poet is singing his song;
I'll walk and I'll work midst the heat of the day,
And I'll help falling brothers along—

Too busy to live in the house by the way,
Too happy for such an abode;
And my heart sings its praise to the Master of all,
Who is helping me serve in the road.

—Walter J. Gresham.

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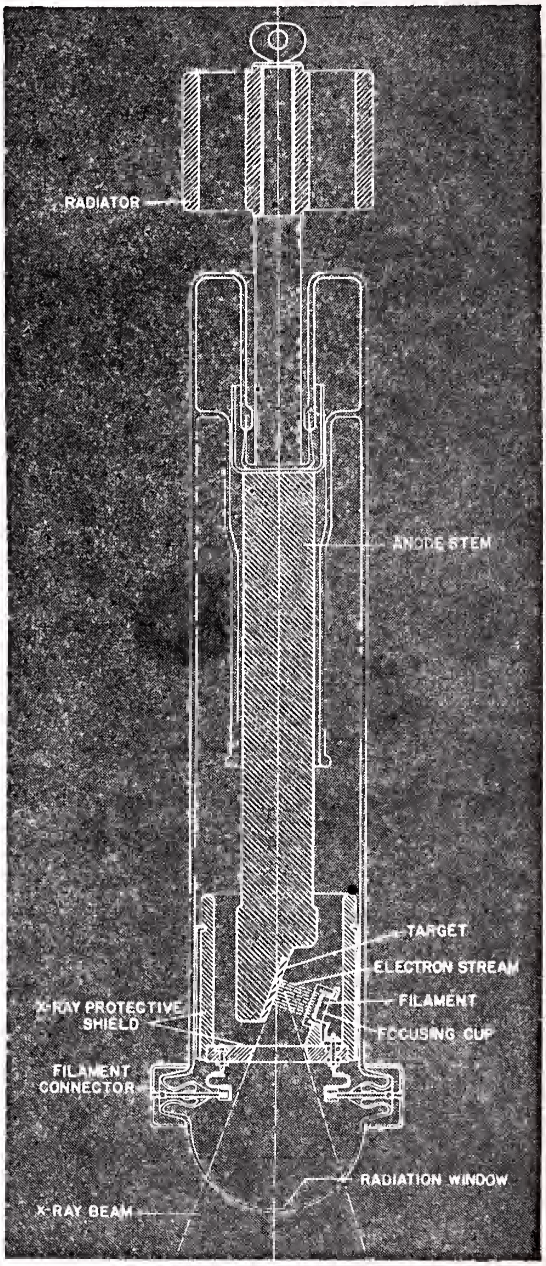

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The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

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MRS. W. H. ANDERSON, Assistant Editor

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Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

EDITORIALS

The fiftieth session of the Mid-South Post Graduate Medical Assembly was its most successful. The enrollment was 1026. The program was the best ever in our opinion. The entertainment was the very best. It gave a post graduate course in four days that quite well covered the field of medicine and surgery, and the essayists were the oustanding authorities of North America. This association is a great treat to the medical profession of the Mid-South. We want to congratulate the program committee and the secretary on the class of scientific program that was presented at the last meeting. It is a fine service they are rendering. Much credit is due Mrs. Finlay who had charge of the publicity for the fine attendance. She is a Ph.D. in the art. The program was rendered in fine style due to the efficiency of Drs. Runyon and Cooper. Dr. Bunting, the chairman of the program committee, is still dipping into the future with a vision of a still greater association. Much credit is due the exhibitors for their part in boosting the attendance and their financial help is of the greatest importance. The Mid-South is often spoken of now as the best association in the United States.

The Mississippi Doctor was again adopted as the official organ of the association and for an indefinite time. The journal went out five thousand strong just before the meeting in trying to do its part in boosting the meeting. We have many papers already on our desk for publication, a greater number perhaps than has been published at any time before. You will not be able to find better papers published in any journal than these of the Mid-South. The journal will be full of other good papers also the year round.

The distribution of the funds for the indigent sick on a per capita basis is the only reasonable thing to do. This is the fair and the just plan. The maintenance of the small hospital means everything in our medical economy. It means more efficient curative medicine. It means the advancement of preventive medicine and preventive surgery. It means more medical education to the masses. Doctor time is the chief surgeon in the acute abdomen and in much of the traumatic surgery. This machine age is demanding an overhauling of medical education and medical and surgical practice. The masses must have modern medical service at less cost. The general practitioner must have more profit. The number of specialists must be reduced. Profit must come on volume of business. Medical education must be brought to the general practitioner, much of it, and he in turn must deliver it to the masses. We must have a more broadly and liberally educated medical profession. The human organism must be studied in all of his relations to life. The national, state, and municipal government augmented by church and philanthropy must take care of the actual deserving charity. The middle class must resort to some form of insurance and the rich few, will of course, be able to take care of themselves. The small hospital is the hub around which all this reform for the delivery of modern medicine to the masses at a reasonable price must rotate.

It was good to see the anesthetists of the Mid-South organize. There are great posibilities for this association. Anesthesia constitutes a large division in the field of medicine. The average patient dreads the anesthetic worse than the operation. The varieties of anesthesia are many. It is no draw back to know them all. It is well to be able to administer just the anesthetic that is most suited to the individual patient. The average practitioner is weak on the administration of any type of anesthetic. He becomes confused now over the multiplicity of varieties. Good anesthetists are about as scarce as hen's teeth. It is one thing to know the theory of anesthesia and the technique of a machine and quite another to be a successful anesthetist. The most important thing there is to be said about anesthesia is for the average man to quit trying to master every type he hears about. Let him select three or four, ether. chloroform, gas oxygen and novocaine, and learn them as David did his sling shot and stick to them. The real anesthetist must practice the Golden Rule. He must be fair and honest and have sympathy with his patient. The patient who does not trust the anesthetist will jus tnot sleep sound. You can not fool your patient. Mental radiology will give you away. If you are giving ether or chloroform—and they are hard to beat—imagine your patient in natural sleep and strive to anesthetize him without waking him. If you are kind and tender and gentle enough and if you have anesthetic sense it can be done. The Mid-South association of anesthetists will result in much good we believe.

Every member of our society deeply regrets the loss of Dr. J. G. Lilly. He was one of our active members. The Mississippi Doctor did not have any better friend. He read it from cover to cover. No other one perhaps encouraged the editor as did Dr. Lilly. The Journal was a part of his daily thought. He loved the practice of medicine. He enjoyed digging deep into his specialty. Service to humanity was his aim. This desire was rooted deep in his heart. He had vision and he had the will to persevere. He sent us the following lines to be published in the journal:

"A curve in the road and the hillside
 Clear cut against the sky;
A tall tree tossed by the autumn wind
 And a white cloud drifting by.

Ten men went along the road,
 And all but one passed by,
He saw the hill and the tree an dthe cloud
 With an artist's mind and eye,
And he put it down on canvass
 For the other nine men to buy."

The editor feels very keenly his loss. The Mississippi Doctor extends its deepest sympathy to the bereaved family.

Dr. C. M. Sperk is the new vice-president of the Mid South. He will do the job in fine style. The honor was worthily and well bestowed.

Pass your ideas on to your fellow practitioner by way of The Mississippi Doctor.

In our December issue our printer got two columns of Dr. Cohn's paper transposed and made it a bit confusing. We are very sorry about this. Any one, of course, who knows Dr. Cohn or has read after him before, would place this blame on us where it belongs. He is the essence of accuracy. He measures every word and he polishes it and sets it exactly in place. He does not leave off the dotting of an i or the crossing of a t. We are very sorry about the little error.

The State Medical Association will hold its annual session at Natchez this year beginning on the seventh of May. The scientific program will be good and Natchez is a most interesting city. Dr. Finney of Baltimore is on the program we understand. He is a native Mississippian. He will receive a most hearty welcome to Natchez and to our state. He is one of the big medical men who has not lost the human touch.

The papers of Drs. Pottenger and Brown in this issue are worth more than the price of the journal. We have another paper by Dr. Pottinger and a number of others read before the Mid-South ready to be published.

The Medical Record and the Medical Mentor have combined. This gives us a very fine journal and one that will be most readable and instructive all along the line of the medical man.

The meeting at Pontotoc will be one of our best. They are a cordial and a friendly people. The program will be extra good and you will be treated in fine style. On to Pontotoc.

The next meeting of the North Mississippi Medical Society will be held in New Albany, the co-operative and friendly city.

In writing your prescriptions, don't forget to ad some of the fluid extract of human kindness.

If you want to read an interesting and an instructive journal try the Southern Surgeon.

Some men in the medical profession know nearly everything except how to practice and teach.

The Medical Department at Ole Miss is moving along quite well we are told.

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PROGRAM OF THE

Northeast Mississippi Thirteen Counties Medical Society

FIRST QUARTERLY MEETING, MARCH 20th., 1934

AT FIRST METHODIST CHURCH

PONTOTOC, MISS. 2 p. m.

Meeting Called to Order—Dr. J. M. Hood, President.

Invocation—Rev. M. E. Scott.

Reading and Adoption Minutes Last Meeting.

"The Nursing Profession Works for Recovery"—Miss Ruth Dalton, Houston, Miss.

Symposium on Cancer.

"Cancer"—Dr. G. S. Bryan, Amory, Miss.

"Factors Influencing the Control of Cancer"—Dr. Shields Abernathy, Memphis, Tenn.

General Discussions opened by Dr. J. A. Crisler, Memphis, Tenn. Dr. W. A. Dearman, Gulfport. Dr. Bernard Patrick, Corinth, Miss.

Business Session.

Alcorn County Medical Society Met February 26th

The Alcorn County Medical Society held its regular monthly meeting in the club rooms of the Waldron Hotel at 7:00 p. m., February 26. Following a dinner the meeting was formally opened by Dr. C. F. Gilbert, the vice-president. Nine members were present.

Dr. G. W. Googe lectured on "The Use of Thytuitary Extract in Obstetrics" and discussion was freely entered into by Drs. Lanning, Gilbert, Stephenson, Hurt, and Norwood.

Acting upon the suggestion of Dr. D. W. Hamrick, the society agreed to have at least one case report at each meeting. It was thought best to have this brief scientific program in addition to the business session. A program committee consisting of Drs. W. A. Johns, W. W. McRae, and Stanley A. Hill was appointed. After necessary discussion of the undesirable debtors list and mourning the fact that no charity money is available for the hospitalization of the indigent sick from either state or county channels, the meeting was adjourned. Te hnext meeting will be held on the evennig of March 22.

Dr. P. W. Rowland, of Oxford, Miss., who is now president of the Mid-South Post Graduate Medical Assembly.

Dr. H. King Wade, of Little Rock, Ark., a former Mississippian, president-elect of the Mid-South Post Graduate Medical Assembly.

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Anesthetists From Mid-South Association Here

The Mid-South Nurse Anesthetists' Association was oganized yesterday afternoon with the election of the following officers: Mrs. Maude Varnado, Laurel, Miss., president; Miss Lala Ruse, Memphis, vice president for Tennessee; Miss Blanch Petty, Little Rock, vice president for Arkansas, and Miss Lola Allen, Greenville, vice president for Mississippi.

The Tennessee Nurse Anesthetists' Association invited the meeting during the Mid-South Post Graduate Medical Assembly convention, and brought to the meeting the president of the National Anesthetists' Association to help organize the new association.

In the picture, left to right, are Mrs. Louise Gilbertson, Memphis, president the Tennessee Nurse Anesthetists' Association; Mrs. Gertrude Fife, president the national association; Mrs. Maude Varnado, Laurel, Miss., president of the new Mid-South Nurse Anesthetists' Association; Miss Hattie Vickers, director of the Tennessee Nurse Anesthetists' Association.

The new officers elected for the Tennessee Nurse Anesthetists' Association are· Mrs. Gilbertson, Memphis, president; Miss Archie Hobson, Knoxville, vice president; and Miss Annie Lee McDonald, Memphis, secretary-treasurer.—Commercial Appeal, Feb. 16, 1934.

Book Review

With frequent and well-prepared essays appearing in every medical journal, being read before every doctors' assembly, the practitioner might feel sufficiently equipped with his knowledge of obstetrics, but with all the writings on this or that phase of the subject, the physician is not given the security of a DeLee's "Principles and Practise of Obstetrics." When we consider that 25,000 women die annual during childbirth; 6,000 from infection; 5,000 from eclampsia and 4,000 from hemorrhage, and that a large part of this is preventable, what reason can we offer except that the standards of obstetric instruction and particularly of obstetric practise are very low Dr. DeLee has presented with inimitable simplicity and clearness the new obstetrical aids and knowledge, illustrating them step by step in color prints and drawings. He guides you through the clinical course and conduct of labor, the treatment and care of both mother and child in such a way as to bring out every important step in good case-management.

You cannot afford to be without this new sixth edition of DeLee's "Principles and Practise of Obstetrics."

Published by W. B. Saunders Company, Philadelphia, Pa. Price $12.00.

County Medical Society Formed

An organization of all the physicians of Pontotoc county was effected this week, it being named Pontotoc County Medical Society. An outstanding feature was the 100 per cent organization, every physician in the county becoming a member. Dr. R. P. Donaldson was elected president; Dr. E. B. Burns, vice-president; Dr. T. H. Rayburn, secretary.

The organization meeting was held on Monday and was followed with a banquet given by Anderson Drug Co., and Crausby Caf.e Out of the county doctors present were: Dr. J. M. Hood, Houlka, president of the 13-County Medical Society; Dr. J. Rice Williams and Dr. V. B. Philpot, Houston; Dr. W. C. Walker, Houlka.

A strong resolution concerning non-payment of bills was a feature of the initial meeting, this being published in this issue of The Progress on another page over the signatures of the members of the county medical society.—Pontotoc Progress.

WALTER A. RUCH, M.D.
Obstetrics and Gynecology
899 Madison Avenue
Memphis, Tennessee

Dr. J. G. Lilly Dies Suddenly

Dr. John Gill Lilly, 61, well known and beloved eye, ear, nose and throat specialist of this city, died suddenly at his home shortly before midnight from heart trouble. Dr. Lilly had worked until 4 o'clock yesterday afternoon when he went to his home and complained of not feeling well. He arose last night and went to the bath room to take some medicine and was fattally stricken.

The deceased was born at Chesterville and was the son of the late Robert Gill and Hollie Camp Lilly. He finished his academic course at Hillsaps College and completed his medical course at Tulane University. He practiced first in Tupelo and was associated with the late Dr. T. F. Elkin. He later practiced at Rodney, Miss., St. Joseph, Louisiana and Natchez, Miss.

It was in Natchez that he met Hattie Grafton to whom he was married in 1900. He moved back to Tupelo in 1920 and again started practicing specializing on eye, ear, nose and throat diseases.

The deceased was an affectionate father, husband, neighbor and friend and was a great lover of nature and things beautiful. He took great delight in the simple things of life and could often be found out among the flowers and shrubs of the flower garden at the rear of his home, listening to the songs of the birds and studying their habits.

He was a member of the First Methodist church and was for a number of years active in its work. He took great delight in his profession and at all times studied to improve himself, keeping abreast with the developments of the times.

There was nothing ostentatious about him but it was his desire to do the most good possible and the least of harm. He was charitable and did much to relieve the sufferings of mankind. He was sympathetic and a true friend. Their sorrows were his and their joys were likewise his.

The deceased is survived by his wife, one son, Dr. Jack Lilly, of New Orleans and one brother, Tom Lilly, of Chesterville.

His son will arrive tonight and funeral services will be held tomorrow morning at 10:30 from the residence, Dr. H. F. Brooks, pastor of the First Methodist church, conducting the rites. Interment will be in Glennwood cemetery.

Active pall bearers include: C. E. Lilly, John R. Lilly, Horace Adams, Edwin Trice, Albert Strain and Cecil Strain.

Honorary pall bearers include all of his colleagues in the medical profession: Doctors George L. Brown, W. H. Cleveland, L. O. Carruth, R. W. Carruth, W. C. Spencer, N. L. Nash, John Trice, R. D. Kirk, W. H. Eason, R. H. Pegram, W. A. Toomer, L. C. Feemster Sr., L. C. Feemster Jr., J. H. Green, A. J. Stacy, J. M. Boggan, W. R. Hunt, S. L. Hutchison and Sale Trice, also G. F. Maynard, J. H. Ledyard, S. P. Clayton, E. C. St. Clair, W. J. Russell, B. T. Clark Sr., T. H. Booth, J. R. Anderson, C. P. Long and W. M. Moore.—Tupelo Daily News.

OUR BELOVED PHYSICIAN

(A tribute to Dr. R. S. Kirk, Oct. 3, 1861 —Feb. 13, 1933.)

By Marshall Wingfield

He wore Hygea's crown with ease,
And battled well 'gainst grim disease;
He plucked men from the Reaper's hand,
Increased their stay on this fair strand.

Long nights uncounted, save in heaven,
To suffering folk were freely given.
His generous gifts none ever knew,
Save the Angel Keeper of Records true.

A valiant guard at health's frail door,
He watched with care over rich and poor.
No howling wind, nor drenching rain,
Could keep him from the couch of pain.

His soul was free from craft and guile;
There was healing in his gracious smile;
And though if grief he had his share.
His cheerful face concealed his care.

When he came to his well-earned rest,
A host of his love and skill had blest;
Brought their tributes to his bier,
And paid the homage of a tear.

And as his form 'neath earth was hidden,
A flood of memories rose unbidden;
And something on each saddened brow,
Seemed to say, "We'll miss him now.

Yes, we'll miss our doctor, friend;
But the earth is no affection's end;
And though he's on another shore,
Our hearts shall love him evermore.

Holden Heads Surgeons

NASHVILLE, Tenn., March 7.—Dr. Gerry R. Holden of Jacksonville, Fla., today became president of the Southeastern Surgical Congress, succeeding Dr. Willis C. Campbell of Memphis.

The congress ended its three-day gathering this afternoon.

Dr. William David Haggard of Nashvlile was named president-elect, to take office next year. Other officers installed today were Dr. James R. Young of Anderson, S. C., vice president, and Dr. B. T. Beasley of Atlanta (re-elected) secretary-treasurer.

Dr. Beasley said that the Congress would probably meet in Jacksonville next year.

HENRY G. RUDNER, M.D.
Clinic—Internal Medicine
1108 Madison Avenue Memphis, Tenn.

Eye Defects In the New Born

PHIL M. LEWIS, M.D.
Memphis, Tenn.

An excellent article by Ruch entitled "Early Problems in the New Born," appeared in the August, 1933, issue of this journal. The author made no mention of any congenital anomalies of the eyes. While these are not very frequent, neither are they exceedingly rare, and they are of the greatest importance to the family in which they occur. Therefore the physician should be able to recognize common ocular defects and advise the family which of these may and which should not be ignored. Hence this writing appears, which makes no attempt to completely discuss all congenital abnormalities of the eye. The prevention and treatment of ophthalmia neonatorum are so well known that no further mention will be made of them in this short paper.

LACRIMAL ANOMALIES

The most frequent defect is a failure of the duct to open at its lower end. This should occur before birth. When it fails to do so, symptoms from the obstruction invariably arise. Usually at first only a watering of the eye is noticed, but sometimes the baby is born with a definite dacryocystitis. A swelling may or may not be present over the region of the sac. Pressure over the sac from below, upwards and inwards, will express mucous or pus from the puncta. Frequently the mother will notice that one eye waters or as they often express it "seems weak." This may be the only symptom.

These cases should be handled as follows. Pressure with the thumb downwards over the distended sac, and at the same time compressing the canaliculi to prevent regurgitation, will often rupture the thin membrane into the nose and cure the condition. Occasionally nature corrects the defect. The instillation of a heavy, colored solution, such as argyrol for a short period of time may be of value, but should never be kept up more than a week or two for fear of causing permanent staining of the tissues.

Unfortunately the above simple methods frequently fail, in which case irrigation with a lacrimal syringe or the passage of a fine lacrimal probe becomes necessary. These manipulations require a considerable degree of skill and experience and should be attempted only by one possessing those qualifications. The results are good.

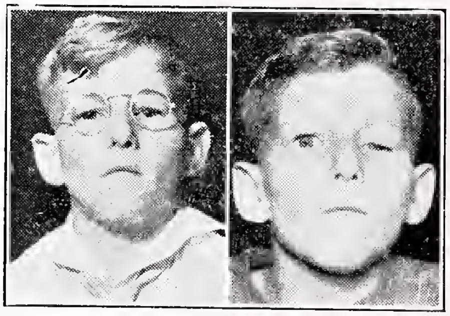
Other anomalies of the lacrimal apparatus are absence of the puncta and canaliculi, fistula of the lacrimal sac and supernumerary puncta.

ANOMALIES OF THE LIDS

Epicanthus which is practically universal in the mongolian races is the most frequent defect Colobomata, which may be only a slight notching or may be so extensive that almost the whole lid is absent, are rare. This is fortunate as the correction of this defect when large is difficult. Epicanthus, however, may be quite satisfactorily handled.

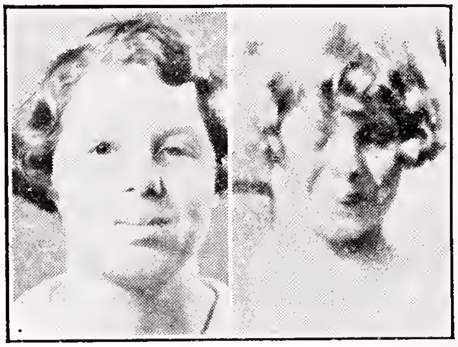
Ptosis is not very rare. Some cases supposedly result from trauma during delivery. Occasionally the levator muscle is entirely absent. The ptosis may be partial or complete. If complete the whole cornea is covered. A good result, by surgical procedure adapted to the particular case, may usually be obtained. If the superior rectus functions normally the best operation is one which fastens a tongue of muscle from the latter into the lid. If the superior rectus does not function properly, resection of the levator muscle or an operation which utilizes the frontalis muscle will give a satisfactory result. Pictures of two patients recently operated upon for congenital ptosis are shown below.

After Operation Before Operation



S. J., age 7. Operation 7-14-33
Resection of Levator Left

After Operation Before Operation



M. P., age 13. Operation 8-23-33.
Motais, (modified) Right

Districhiasis is a condition in which the lids have two distinct rows of cilia or lashes, the posterior one growing backwards against the eye ball. This condition is rare, only a small number having been reported in the literature. Personally I have encountered one case, who had two complete sets of cilia of all four lids. Epilation, by means of a fine electrolysis needle and galvanic current, completely destroyed these abnormal cilia and cured the condition.

OTHER ANOMALIES

(1) Other external congenital defects are (a) cylopia, or the presence of only one centrally placed orbit or eye ball (b) anophthalmus or complete absence of the eye ball (c) microphthalmus or small eye ball and (d) megalophthalmus or enlargement of the eye ball. The latter is often associated with an increased intraocular tension in which case the condition is called buphthalmus.

(2) Persistent pupillary membrame, a condition in which some brown or gray iris tissue remains in the pupillary area on the anterior capsule of the lens,

is not an infrequent thing in newborn infants, but usually absorbs spontaneously. Occasionally they remain throughout life.

(3) Aniridia is a rare defect in which the iris is absent.

(4) Congenital cataracts and dislocations of the lens are rather frequent and require early surgical attention.

(5) Albinism or congenital absence of pigmentation is not very rare. Usually associated with nystagmus and high refractive errors, the condition requires very early attention to secure proper glasses for developing vision and protecting the retina from excessive light.

(6) Colobomata may occur of almost any structure of the eye ball. Most frequent are colobomata of the choroid and iris, but they also occur in the sclera, lens, vitreous, optic nerve and retina. Unfortunately nothing can be done to benefit these defects. They, as well as many of the other ocular defects of the newborn are often hereditary manifestations, which of course is true of congenital abnormalities of any part of the body.

CONCLUSIONS

(1) Ocular defects in the newborn are relatively frequent.

(2) A number of them can be cured entirely and others greatly improved but some are hopeless.

(3) The physician should have some knowledge of these anomalies in order that he may intelligently advise his patients regarding them.

Exchange Building.

Neglecting Ourselves

During 1933, forty-three Mississippi physicians played losing hands with Death. There is need for medical skill in every community, and while there are always heavy demands on a physician's time and ability, it would seem from the number of deaths occurring in our ranks that it is time for us to cease being neglectful of ourselves.

William Keen, dean of American surgery, who died of a heart attack in the summer of 1932, his ninety-fifth year, having retired at seventy, said that no man over seventy had the right to hold human lives in his hands. Each man to his own belief about that, but from the record of deaths of many Mississippi physicians, it is seen that a large percentage of our doctors have no choice about retiring at seventy.

Of the 3135 deaths in 1932 of physicians in the United States whose ages were given, the average age at death was 64 years. The average age of physicians dying in Mississippi during 1932 was 63½ years; in 1933 it was 62 3-4 years.

Judging from the death records for physicians, it would seem that to some, longevity is not worth foregoing follies that tend to shorten the span of life.

There has been an increase in life expectancy, but so far children are the beneficiaries. If any adults should share in this increased expectancy, the doctors should. They know how to keep well; they know, also, the habits and practices that invite premature death.

Deaths among Mississippi physicians in the past

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twenty years occurred as follows:

No.	Year	No.	Year	No.	Year	No.	Year
22	1914	21	1919	31	1924	29	1929
28	1915	26	1920	33	1925	49	1930
27	1916	24	1921	24	1926	52	1931
33	1917	23	1922	30	1927	40	1932
31	1918	23	1923	17	1928	43	1933

Doctors in Mississippi are always on guard about the health of their patients and many are taking care of themselves, but there are many who are failing to heed the clear warnings. Is there any plausible reason why medical men should wear themselves out within a few yeras?

It has ever been so that the baker's family is frequently without bread, and the shoemaker's child goes barefooted; however, it should no longer be true that the physician is neglectful of his health.

MISSISSIPPI PHYSICIANS WHO DIED DURING 1933

Name	Town	Age	D.C.No.	Date of Death
E. Mayo Anderson,	Forest	26	4882 La.	Aug. 29
W. C. Anderson,	Forest	57	12701	Aug. 23
S. H. Anderson,	Kiln	53	6994	May 5
*A. S. Applewhite,	Raymond	62	8659	June 6
Mace H. Bell,	Vicksburg	52	3090	Feb. 1
Wm. Henry Boone,	Pucket	73	2896	Feb. 24
Wallace L. Britt,	Jackson	61	15400	Oct. 19
W. A. Carnes,	Memphis	61	24357 T.	Nov. 20
W. M. Carson,	Stovall	62		Dec. 19
C. M. Coker,	Eden	65	14635	Sept. 20
B. L. Culley,	Jackson	80	10566	July 19
J. A. Donaldson,	Okolona	55	3490	March 27
A. C. Enoch,	Oklahoma City	74	O.	May 17
J. H. Giles,	Ripley	76	11251	July 16,
W. W. Gore,	Cadaretta	79	11435	July 14
H. E. Griffin,	Coffeeville	56	11919	Aug. 12
Wm. H. Hardin,	Calhoun City	81	159	Jan. 20
E. F. Howard,	Vicksburg	59	9646	June 9
John J. Howell,	Kilmichael	56	10891	July 23
J. S. Jackson,	Belzoni	69	15545	Oct. 23
J. M. Jinkins,	Crenshaw	60	7637	May 21
J. P. Kennedy,	Greenwood	40	11993	Aug. 6
J. A. King,	Forest	60		Dec. 6
R. S. Kirk,	Amory	72	4074 T.	Feb. 13
Hampton S. Lewis,	Bay St. Louis	65	1547 La.	March
M. J. Lowry,	Meridian	77		Dec. 20
J. C. McNeil,	Gloster	83	11549	Aug. 12
Walter L. Patton,	Trenton	78	9042	June 11
John Edwin Quidor,	Vicksburg	53	1529	Jan. 5
J. C. Robert,	Centerville	80	NC.	Oct. 2
B. L. Robinson,	Meridian	61	17544	Nov. 20
J. P. T. Stephens,	Vaiden	56	5209	April 29
Clyde R. Stingily,	Meridian	54	8946	June 24
J. P. Stovall,	Sardis	76	2793	Feb. 15
E. L. Summers,	Hattiesburg	52	15236	Oct. 5
F. E. Thompson,	Bruce	52	6971	May 11
C. E. Tynes,	Summit	47	Delay	Feb. 10
James W. Wheeler,	Meridian	51	O.	Nov. 20
A. F. Whitehurst,	Iuka	65		Dec. 19
T. F. Wilson,	Arcola	54	14691	Sept. 23
C. G. Wright,	Brooksville	50	13548 I.	April 27
John William Young,	Grenada	86	2143	Feb. 15
*Edmond T. Barron,	Pattison	70	16964	Nov. 29

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A Review of Certain Fundamental Factors in the Treatment of Tuberculosis*

F. M. POTTENGER, M.D.
Monrovia, Calif.

Failure in the treatment of tuberculosis may be traced to two main sources: (1) failure to diagnose the disease early and convince the patient of its nature so that he will seek proper treatment; and (2) failure to establish the proper line of treatment and prosecute it with vigor when a diagnosis has been made.

How to make better diagnoses and how to improve the results of treatment are the burden of much of the discussion in all associations which are organized for the prevention and cure of tuberculosis. Knowing that cure depends so much on early recognition, discussion of cure can not be carried on without treating of its relationship to the extent and intensity of the disease.

The fact that early diagnosis has been so greatly facilitated by our modern advancement: (1) in the laboratory which has given us the bacillus and the methods for detecting it; (2) tuberculin and the method of using it; and (3) the x-ray and the methods of adapting it to the conditions which are presented by the disease as it infiltrates an air containing lung, is apt to make us think that early diagnosis is a modern conception, and its appreciation something new.

We are apt to think of early diagnosis so much in terms of these three procedures that we think of it as being only of recent origin; yet we must not forget that clinicians had been armed with percussion since the time that Auenbrugger first described it in 1761, and with auscultation since Laennec gave it to the world in 1819. Even these methods, although they were of great accuracy when compared with those with which clinicians had previously been equipped, simply supplemented clinical observation which had served great clinicians well in the past and had enabled them to arrive at clinical distinctions which place tuberculosis, the same as today, in "early," "moderately advanced," and "far advanced" categories.

All honor to such predecessors of modern clinicians who were able alone by observing and questioning the patient to arrive at an opinion of the relative seriousness of his disease. This can be done today, but it is not attempted as frequently as it should be because we have ceased all too much to utilize this clinical sense. Clinical history carefully taken will give the physician a fairly accurate picture of the disease and of the patient and the resistance which he is showing toward the disease.

Richard Morton, who lived from 1635 to 1698, tells us that consumptive persons take the beginning of consumption for a common cold, and "squander away their precious time" until by increase in hectic fever and the loss of strength they are plainly incapable of cure; and further that the disease in this second

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*Read at the Fiftieth Annual session of the Mid-South Post Graduate Medical Assembly, Memphis, Tenn., February 13-16, 1934.

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degree is rendered more difficult and more uncertain of cure, "hence it comes to pass that a consumption has so ill a name as if it were a distemper altogether incurable in its own nature when (as far as I apprehend from what I have been taught by experience) it does admit of as certain a cure as other diseases; so it be timely treated in a due method." This opinion coincides with that expressed today, only it is expressed in quaint language.

Again we find a second great physician of the seventeenth century who, by careful observation, had learned that tuberculosis was a disease capable of cure. Sydenham, living from 1624 to 1689, writes: "to be short, how deadly soever a consumption is, and is said to be, two-thirds dying of it who are spoiled by chronical diseases, yet I sincerely assert that mercury in the French Pox and the Jesuits-Bark in agues, are not more effectual, than the exercise above mentioned in curing consumption." In this he refers to horseback riding which, while not permitted today except after arrestment has been attained, took the patient from the hot room and unfavorable surroundings in which he at that time lived and put him into the open air where improvement was hastened.

While there were many physicians of lesser standing during those centuries immediately preceding the nineteenth who manifested interest in the diagnosis and treatment of tuberculosis, yet, to medical men in general, tuberculosis was a hopeless disease, a plague which took its toll of human lives in all countries possessed of an advanced civilization.

Attention was directed to the possibilities of cure now and then by some enthusiast. Bodington in Warwichshire, England, suggested the open air treatment in 1840, but was laughed out of court by the ridicule of his confreres. Sir Archibald Smith, while on a trip to the Andes in 1849, made an erroneous interpretation of an observation which was to exert great influence for many years on the treatment of tuberculosis. He noted that there was a good deal of tuberculosis at Quito, but that there was almost none in the smaller villages at altitudes higher than Quito. He accounted for this, not by the difference in human environment but by a difference in natural environment. He thought that there was an immune zone somewhere between Quito and the higher elevations. The publication of this observation in the "Edinburgh Review" set the minds of those who were interested in the cure of tuberculosis mountainward.

This observation was made the basis of the altitude treatment of tuberculosis. While its benefits were limited to a comparatively small number of people yet it marks an advance in therapeutics, in that it laid down a definite principle, that of changing to some particular climate. If the change was made early, the stimulus given to nutrition, together with getting the patient away from home environment, was sufficient to make the altitude treatment far superior to home treatment. The inconvenience and cost, however, militated against its general use. It was only for the few.

The evolution of present-day treatment may be said to begin with Brehmer and his sanatorium at Goerbersdorf, Silesia. Brehmer's contribution to the treatment of tuberculosis consisted of isolation and control of the patient under hygienic conditions and in this established the basis of the modern treatment of tuberculosis.

He furthermore laid emphasis upon strengthening the heart which he thought was relatively small in those who suffer from tuberculosis. To this end he prescribed graduated hill climbing and endeavored to carefully suit the grade and the distance to the needs of each patient. Many of those who attempted to follow him were not as cautious in the employment of the exercise as he was.

While his method is opposed to rest which today has been made an essential part of the established treatment of active tuberculosis, yet there were enough good elements in the regime to cause it to live. Many of Brehmer's patients came from Vienna where they had lived in closed rooms in crowded spaces. They were transported to a beautiful country environment in the low mountains of Silesia. They lived in well ventilated rooms, ate good food, kept regular hours and were given careful supervision by a physician who was enthusiastic in his belief that tuberculosis could be cured. Not only were the patients well directed except as to the use of too much walking, but they fell under the spell of his optimistic psychology which had as its fundamental tenet "early tuberculosis always curable."

Thus began, amidst some error and much truth, modern tuberculosis therapy, which in a little more than half a century has reduced the mortality from tuberculosis by more than two-thirds and delivered society from its most dreaded disease. Tuberculosis no longer claims every fifth or seventh life in America, but about every eighteenth or twentieth. Even every year sees the number of deaths caused by it reduced.

Brehmer had as a patient and then as an assistant Peter Dettweiler. Dettweiler was a careful student and observer. He saw certain things that the master failed to see. He recognized the value of isolation, hygienic living, good food, and careful medical supervision, but believed that the exercise, hill-climbing, as prescribed by Brehmer, was detrimental to many of the patients. Accordingly, after seven years as assistant to Brehmer, he went back home to the Rhine Valley and erected a sanatorium of his own at Falkenstein, where he carried out the same general regime as was established by his master, but made rest, reclining in the "Liegehallen" for hours each day, an important part of the method.

Brehmer died in 1889, realizing that he had made a great contribution to the treatment of tuberculosis, but before its real magnitude was fully appreciated. Dettweiler lived until 1904 and saw the gradual development of his idea of the "Liegehhallen" and the gradual acceptance of long hours of rest as an essential part of the treatment. He furthermore saw the entire German Empire imbued with the idea of public sanatoria, more than one hundred of which had already been established, each of which contained its "Liegehallen."

The first sanatorium in America was established by Trudeau in 1884. While it was twenty-five years after Brehmer had established his institution, it was still a very early venture in the sanatorium movement. It was a great vision that Trudeau had, for it was a long way from the Adirondack Mountains in Northern New York to Goerbersdorf and Falkenstein; yet the idea had crossed the Atlantic and taken hold of

Trudeau with such an impelling force that America joined the crusade for the conquering of tuberculosis.

The sanatorium movement focused the attention of both laymen and medical men upon the treatment of tuberculosis. In America the institutional idea grew slowly, but the idea of attempting to do something for the tuberculous patient moved on with great strides. For a long time it took the form of faith in climatic change. So during the last decades of the nineteenth and the early years of the twentieth century, whenever tuberculosis was diagnosed, the thought of climatic change usually came at once to the mind of both physician and patient.

While the Adirondack Cottage Sanitarium at once made a place for itself in the treatment of tuberculosis, favorable results were also obtained in the village of Saranac; so the Adirondacks became popular as a resort for tuberculous patients. Likewise the Catskills, and numerous places in Tennessee, the Carolinas, Georgia and Florida. While the mountains and desert of the West were much farther from Eastern centers, it was found that those who went to these places suffering from tuberculosis often made excellent recoveries; so as transportation facilities improved, the climates of Colorado, New Mexico, Texas, Arizona and California gradually attracted more and more people.

Regardless of the fact that the climatic treatment of tuberculosis was shown to be of great value, the problem of the treatment of tuberculosis was of such a magnitude that it was necessary to look upon it as a home community matter. This was made especially necessary because of the inconvenience and cost of taking the cure in distant places. Most tuberculous patients come from that portion of society which is unable to finance the long treatment necessary for recovery. These, however, were impelled by the same desire to get well as those who were better able financially to make a change; so often they spent their all for transportation only to arrive in a new country with hopes for cure but without the necessary funds to bring it about.

Climatic change without adequate care proved not only to be useless but often detrimental. Gradually the duty of governing bodies to tuberculous patients became appreciated and when it was once assumed, sanatoria were provided in or near the thickly populated centers throughout the country. As favorable results began to be shown in all sections of the United States, where adequate care was given, treatment in home climates took on an important place in therapy.

Several errors hovered about the home treatment idea, the most glaring of which was a violation of scientific fact. Because it was so essential tc spare the poor from taking long journeys to places and conditions with which they were unfamiliar where they were obliged to meet conditions which they were ill prepared to meet, the statement was made and oft repeated that there was nothing in climate that would favorably affect the tuberculous patient.

No one can accurately observe either the sick or the well, the tuberculous or the nontuberculous, for any length of time without seeing the great influence which is exerted upon people by weather, climate and seasons. Most profound changes are brought about in the human economy by varying geophysical forces. That tuberculosis shows greater tendency to form metastases in the spring than in other seasons was known to our ancestors. There was a saying that if the tuberculous patient lives through the falling of the leaves, he will live till the budding of the trees. Careful records show that there is about four times as much miliary tuberculosis and tuberculous meningitis in the spring months as in the summer.

The real truth which it was intended to impress on tuberculous patients was not that there is no virtue in climatic change, but that tuberculosis will heal in all climates. While neither a change of climate nor any particular climate is essential to the cure of tuberculosis, yet so long as the human being is subject to stimuli which are found in his environment he will be affected by climate and weather. As we understand our physiology better, we should come to a more general and a more accurate employment of climate in the treatment of various diseases.

No description of important measures in the treatment of tuberculosis is complete without mentioning tuberculin. Regardless of the fact that tuberculin made a bad start when it was first announced to the world, the student of immunology can not get away from the fact that it contains immunizing substances which are necessary to building up the specific defense of the tuberculous patient. Tuberculin, like a reformed man, is obliged to live down a bad name and so has found it very difficult to gain the confidence of many of those who are outside of the family circle. That its action is not fully understood, is true, but this is not an argument to condemn, but one to spur on to greater investigation.

Tuberculin may be given in large doses with the double purpose of stimulating the foci of disease and desensitizing the patient to his bacillary products, or in small doses just large enough to cause mild focal stimulation. I have employed both methods and have found each useful in treating different types of lesions.

There is little doubt but that tuberculin, if it could be announced to the world today and be made to produce the same results that have been produced for years in such visible lesions as those of the eye, larynx, tongue, epididymis, glands and sinuses, and such other results as may be observed, though less convincingly, in the lung, would take its place among the very important remedies in the treatment of tuberculosis.

It has one great advantage in that it requires the physician to keep close watch on his patient, to see him often and to familiarize himself with his condition by frequent examinations. This is of the utmost importance in the successful treatment of tuberculosis.

It is quite probable that the tuberculins which contain some of the phosphatide fractions may be of greater value than those which are composed of the protein elements alone, for they are more particularly useful in bringing about proliferative changes. Von Ruck always claimed that the best vaccine contained all elements of the bacillus.

The results gained by those who have been persistent users of tuberculin over a period of many years are sufficiently encouraging to stimulate further search for a better tuberculin. We can not get away from the fact that the cure of tuberculosis is brought about through the process of immunization. This fact alone is sufficient to encourage both fundamental research and clinical trial. The cure of tuberculosis by other means is simply taking advantage of the natural stimulation of the immunity mechanism which is brought about by the disease process itself.

By means of control of the patient under hygienic conditions, with good food, either with or without climatic change, we have been able to help many patients cure themselves. We have, in fact, reached the point in therapeutics where we can guide to health nearly all patients suffering from early tuberculosis, and a very substantial percentage of those in whom the disease is more advanced. But for one reason or another we are still unable to begin our treatment of the patient at the most favorable time; so, when the average patient seeks aid he has many complicating conditions which enter in to interfere with healing. In some instances they only hinder and slow up the process, but in others they absolutely prevent healing from taking place.

Various procedures are now at our command which enable us to meet these obstacles; and our ability to cope with serious complicating conditions is ever getting better. But if we analyze what happens in these patients who are permitted to pass from the early limited lesions to the more advanced ones, we can readily see that it is still the function of the medical profession to protect the tuberculous patient from the advanced disease (consumption) and thereby save him from the necessity of submitting to the more serious therapeutic measures.

Advanced tuberculosis is a crippling disease, and any method which will cope with it is justifiable. We must not, however, permit ourselves to get so accustomed to the fact that we can check the disease in its advanced stages that we allow ourselves to become calloused to the crippling influence that it exerts upon the patient.

While most of the problems of early tuberculosis are immunological and depend on the resistance of the patient the most serious problems of advanced tuberculosis are mechanical and require operative relief. There is quite a tendency for those who see that the results of operative procedures in far advanced lesions are not all that can be desired, to urge earlier operation before the mechanical conditions which make the operative measures necessary have appeared. Such, however, may not be necessary; for at that time, before the mechanics of respiration have been seriously interfered with, the proper control of the patient will bring about healing in nearly all instances without the necessity of operative measures. The tuberculous patient is not primarily one for operation.

The improved methods of meeting the complications of advanced tuberculosis have been brought about by the introduction of compression therapy, a term which include pneumothorax, oleothorax, pneumolysis, operations on the phrenic nerve, and thoracoplasty.

These measures are often discussed as though their purpose was that of furnishing local rest to the diseased part, through compressing the tuberculous tissues. While this is a purpose served particularly by pneumothorax and oleothorax, active compression is not a prominent factor in any of the other measures. A relaxation of the diseased pulmonary tissue, however, is brought about by each of the procedures.

Under normal conditions the lungs move freely at each respiratory movement, the smooth pleural surfaces gliding one on the other. The lungs fill the thoracic cage completely both on in-and expiration.

As the pulmonary tissue becomes infiltrated with tuberculosis, however, this normal status is interfered with. The infiltrated tissues are less elastic and do not respond with free movment. Should either healing or destruction of tissue take place the volume of lung tissue becomes reduced. Oftentimes, too, the infiltration itself, particularly when it becomes atelectatic, lessens the volume of that portion of lung tissue which is involved. This brings about a condition in which the shrinking in volume must be compensated by the thoracic cage, so the ribs, following the pulmonary tissue, become depressed and the diaphragm may assume a higher position both tending to make the introthoracic space smaller.

Should the contracting process stop while the lung volume and the thoracic cage are still in equilibrium, all is well. But it does not always do so, and other factors enter. The pleura may become adherent over a limited or wide area of its surface. The mediastinum may become fixed so as to make the thorax two distinct cavities instead of one divided by a swinging partition. Much fibrosis and loss of tissue may take place with resultant contraction. The thoracic walls may be no longer able to yield and so the tissues are put on tension. Cavities, too, when they become chronic, have a tendency to develop thick fibrous walls which, with their tendency to contract, are just as apt to hold the cavities open as to close them. So here are many factors which interfere with healing.

Under these circumstances, immunity may be high, the patient's physical condition be excellent, but still he may be unable to bring about healing. Some form of operative procedure by which the limiting cage is reduced in size or by which a cushion of air or oil is injected into the pleura so as to join with the lung in filling the cage, may allow or force the lung tissue to relax and put it in a condition which facilitates healing.

It is surprising what extensive lesions may be successfully treated by these various procedures, if we consider checking the activity of the disease as success. Unfortunately, every one of these measures may and certain of them always cause permanent reduction in the respiratory and circulatory mechanisms. It is a reproach to the intelligence of both the medical profession and laymen that we can not get people who are suffering from so serious a disease as tuberculosis to give attention to it early when it can be healed and still leave the patient in a condition of efficiency for carrying on his work in life.

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A Consideration of Pyuria in Children*

THOMAS D. MOORE, M.D.
Memphis, Tenn.

The problem of determining the source of pyuria and its treatment in young individuals is of interest to pediatricians and urologists alike. Therefore, it seemed an appropriate subject for discussion at this joint meeting of our respective societies.

The term "pyelitis" is commonly employed in referring to urinary infections in juveniles, often with no more evidence to support the diagnosis than the finding of pus cells in the urine. It is well known that an inflammatory process confined strictly to the renal pelvis rarely occurs; the parenchyma is usually involved to some extent, as well as the ureters and bladder. Pyelonephritis or pyelocystitis would be preferable terms. In those cases, acute or chronic in nature, which have not had the benefit of a thorough urological study, the symptomatic designation of pyuria is more desirable; as recently advocated by Campbell.

Urinary infection is one of the most common urological disorders of childhood, the incidence being exceeded only by that of enuresis. Of 1520 urologic cases in children, admitted to the Harriet Lane Home, Baltimore, 527 were diagnosed as pyelonephritis or pyelocystitis, of which 79 were boys and 448 were girls.

Before this group a description of the clinical symptoms of acute pyelonephritis is unnecessary. Three types of the disease may be mentioned: 1. Unexplained fever is the predominating symptom; there are no localizing signs. The discovery of much pus and bacteria in the urine is the clue to the correct diagnosis. 2. Another type is that which often complicates such infections as tonsillitis, otitis media, furunculosis, et cetera. A large fluid intake and the administration of alkalies soon affords relief in most cases. In fact, early recovery without any particular treatment is not uncommon. 3. The relapsing form, characterized by repeated attacks of high fever, often associated with rigors, prostration, malaise, anemia, and persistent pyuria, in spite of the usual therapeutic measures. This group especially concerns the urologist, as his assistance is sometimes requested in the investigation and treatment of such cases. In a good percentage of these some abnormality of the urinary tract will be found, a feature of which is urinary stasis.

This simple classification is of practical importance. It indicates that types one and two are those which may be expected to respond favorably to medical management, the simpler measures usually being sufficient. The more severe forms, the relapsing type, chronic cases, and all those which have not responded to the usual therapeutic measures after a

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*Read before the joint meeting of the Memphis Pediatric Society and Memphis Urological Society, September 12, 1933, Memphis, Tennessee.

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reasonable time, should have the benefit of a urological survey. Kretschmer, Stevens, Bugbee and Wollenstein, Caulk, and Neff have stressed the importance of thorough urological studies in children and have clearly demonstrated the feasibility of such examinations and have pointed out the superior results of treatment, planned on the basis of the cystoscopic findings. Instruments for use in infants are now available with a caliber as small as 9F to 12F. There are cases on record of cystoscopic examinations on male infants of only a few hours or a few days of age. The procedure is a serious one in very young infants, especially boys, and should never be considered lightly. It has always seemed to me that the simpler measures should be tried first in all acute cases. It is obvious that such measures were not given a real opportunity to relieve when the examination is made a few hours after the onset, or when the subject is only a few hours or a few days of age.

Chart 1.

Children with pyelonephritis admitted to the Baptist Memorial Hospital during '31, '32, and '33.

Boys, aged 8 months to 12 years 8
Girls, aged 10 weeks to 15 years 20
Acute (duration 2 weeks or less) 16
Chronic (duration 2 weeks or more) 12
Medical treatment only, acute cases, 6 (M 2; F 4)
chronic, 2 (M 1; F 1) 8
Subject to cystoscopy, acute, ... 10 (M 4; F 6)
chronic, ... 10 (M 1; F 9) 20
Pyelograms 7; (retrograde 6; intravenous 1).
Cultures 19; (reported neg. 9; B. Coli 8; Staph. aur. 1; Staph. alb. 1). Stains for T. B. or guinea pig inoculations none.

In acute cases a limited examination may yield information of the greatest value. This should include a urinalysis, with determination of the pH, culture of the urine, and an estimation of the renal function by obtaining blood for non-protein nitrogen or urea content. A plain film of the region of the urinary tract should be made in all cases that do not improve readily under treatment; a cystogram can be made easily which will not only render apparent certain vesical abnormalities, but occasionally uretral reflux occurs permitting pyelograms at the same time.

With the advent of excretory urography an especially valuable aid was added to the urologist's armamentarium for the study of the urinary tract of infants and children. If care is used in preparing the patient, excellent delineation of the calices, pelves, ureters, and bladder are obtained. This method has been greatly improved since it was first introduced in 1929. In the adult the amount of solution injected has been reduced from 100 cc, containing 40 gm of the drug (uroselectan), to 20 cc, containing only 7 gm of the radiopaque substance (neoskiodan). With the latter agent there is such a wide margin of safety that children may receive more per kilogram than is used in the adult. Excretory urography is of especial value in demonstrating congenital abnormalities of the upper urinary tract and bladder, hydronephrosis, and in identifying suspicious shadows which the plain film might have revealed. While this method will never take the place of the complete data obtained by cystoscopic means, it will yield all the information necessary in many cases. In addition a visual estimation of the functional condition of the individual kidney is obtained. In young infants it may be necessary to use the jugular vein, or the anterior fontanelle in making the injection.

In cases requiring cystoscopy a general anaesthetic is usually necessary, although in older children who will cooperate well, local anaesthesia may be found satisfactory. The examination should be as complete and thorough as in the adult and include a differential functional test, pyelograms, and renal specimens for microscopic examination and culture. In the presence of infection the injection of the renal pelves for pyelography should be done with the greatest care. Such irritating media as sodium iodide solution should be avoided. Solutions of skiodan (20%) or uroselectan (30%) are bland can be used safely and without pain, and are ideal for the purpose.

A stain of the urinary sediment will often reveal bacteria that will not be found on culture. It is a common experience to find streptococci or staphylococci in the direct smears, and cultures of the same specimen will reveal only the colon bacillus, which grows much more luxuriantly on ordinary media. Unless special cultural methods are used, with due regard for the oxygen tension, cultures as usually made will be of but little value.

Recently I have reviewed the case records of children having pyelonephritis, who were admitted to the Baptist Memorial Hospital during 1931, 1932, and the first eight months of 1933. It was surprising to find that during this period only 28 cases were admitted in which the primary diagnosis was pyelitis or pyelonephritis. Chart 1 summarizes the data obtained in this review. There were 8 boys and 20 girls. The cases were divided into two groups: those in which the onset of the disease was less than two weeks prior to admission, numbering 16, and those in which the trouble had been present more than two weeks, which varied from 14 days to 3 years; in this group there were 12 cases. If time permitted it would be of interest to take up these cases individually and discuss them. Eight of the cases had medical treatment only; two of these, in which the disease had been present nine weeks and six months, respectively, should have had the benefit of a urological study. One of these patients was given mercurochrome intravenously and discharged the following day. Cystoscopic examinations had been made in 20, which may be considered an unusually high proportion of cases. This is probably explained by the fact that only severe or moderately severe cases are hospitalized and it would be reasonable to expect that most of these would be studied urologically. The youngest child so examined and treated was a boy six months old, who became ill two hours before admission; after one week of medical treatment he was not doing well and the cystoscopy was decided upon. It was gratifying to find that there were no deaths in the entire 28 cases, although several were very ill with hyperpyrexia lasting for days and days.

In acute pyelonephritis intensive medical therapy may be expected to be of definite benefit, provided no abnormality or stasis exists in the urinary tract. The brilliant researches of Helmholz may be used as a guide in the treatment of the disease. He has stated "the most important feature in the treatment of pyelitis is the giving of large amounts of fluid." Alkalies seem to be of benefit, but the reason is not clear, unless it is due to the diuretic effect, as there is abundant experimental evidence that they have no direct antiseptic properties. The clinical investigation of urinary antiseptics, administered orally, reported recently by Edwin Davis, indicates that methenamine and acriflavine are of definite value; at the same time he found that pyridium and hexylresorcinol were practically inert. Helmholz also found the latter drug to be of little value, as its prolonged use seemed to benefit only one case of a series of 14 treated, many of which were promptly cured with methenamine. In giving methenamine the degree of urinary acidity should be carefully controlled, preferably by determination of the pH, which can now be very simply accomplished. The drug acts only in an acid medium of a pH of 5.5 or below. Ammonium chloride is the most dependable acidifier and may be given in doses of one gram four times daily to a child of six years. In addition methenamine 0.5 gm is given four times daily. Prolonged periods of this medication are undesirable, large doses over a short period being preferred. In a few cases it may cause hematuria, which according to Helmholz is of vesical origin and not from renal irritation. If this symptom appears, the drug should be discontinued, the fluid intake increased, and alkalies resumed. The criterion for cure is a sterile urine. Although the temperature may return to normal and there may be marked clinical improvement, if pus and bacteria persist in the urine, another exacerbation may be expected. The daily fluid intake should be at least 1000 cc and more if possible. It may be given by mouth, nasal tube, rectally, intraperitoneally, by hypodermoclysis, or by intravenous infusion. In selected cases, which have not responded favorably to drug therapy, the ketogenic diet will be valuable. Supervision of the diet must be very strict, and the pH of the urine followed closely; it is difficult to carry out except under hospital environment.

Those cases which do not respond to medical therapy should be carefully studied urologically, with the view of excluding complicating urinary abnormalities and anomalies. The importance of this means of differentiating the cases cannot be over emphasized, as it will detect fairly well those cases which will eventually terminate fatally through slow destruction of renal tissue, if the infection is allowed to go on without adequate and intelligent treatment at the hands of the urologist or surgeon.

To provide adequate drainage is the key-note of urological treatment. This alone will clear up many stubborn cases of pyuria and may be accomplished by employing ureteral catheters or bougies, the gradual dilatation of points of partial obstruction, or the removal of congenital valves from the posterior urethra, the treatment of diverticula, or the getting rid of obstructing stones, whether renal, ureteral, or vesical. The chief benefit of cystoscopic treatments is probably through the dilatation effected in passing the cystoscope or in passing catheters through the ureters, rather than the antiseptic which is injected.

Surgical treatment will be imperative in a cer-

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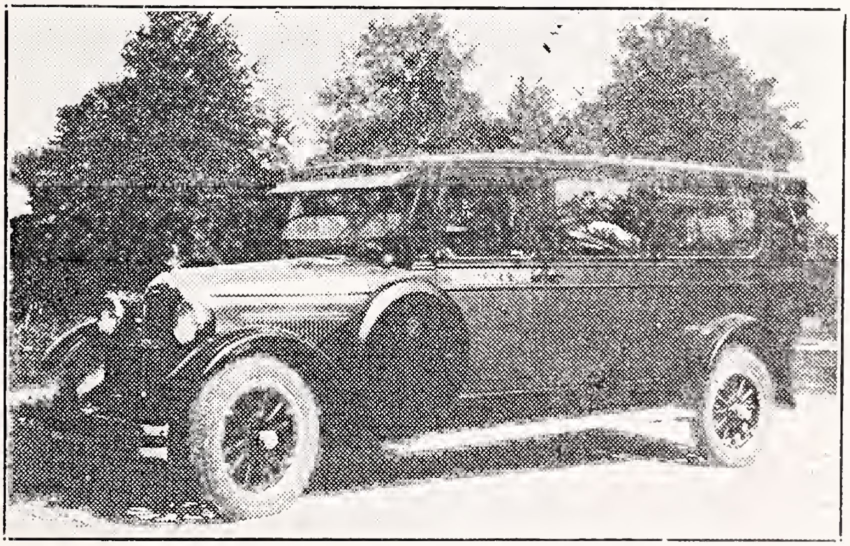

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tain number of cases, such as infected hydronephrosis, lithiasis, enormously dilated ureters from congenital atresia, large vesical diverticula, and last but not least—renal tuberculosis. The early recognition and surgical treatment of such conditions will permit the conservation of renal tissue, which later on in life will require nephrectomy or some other radical measure, if the patient is allowed to go on and on, labeled with the diagnosis of "pyelitis."

Some Post Operative Complications and Their Management

J. WALTON LIPSCOMB JR.
Columbus, Miss.

This paper is written with a certain amount of hesitancy and feeling of inadequacy on my part. I have referred frequently to the literature on this subject, and have used it as my own personal observations have confirmed it. Those things which I have not observed frequently or do not concur with are left out altogether.

Probably the most common, the least fatal, and the most annoying condition with which we have to deal is wound infection. Any unaccounted for post operative fever in a clean case should cause us to first examine the wound. This should be done under aseptic conditions. If the wound is carefully palpated between the thumb and the forefingers from above downward taking the whole thickness between the fingers often some portion of it will be felt to be endurated and more painful than others. Quite often a simple piece of rubber dam may be inserted into this area and the condition relieved. Early discovery of such areas frequently prevents complete involvement of the wound.

The factors predisposing to wound infection other than gross soiling are small hematomas due to incomplete venous hemostasis, inclusion of large segments of tissue in ligatures, and incomplete exclusion of skin from wound edges.

Wound rupture is a much rarer condition and one that is often serious. Wound rupture generally occurs later, that is from the seventh to the twelfth post operative day. The incidence of wound rupture may be lessened by, (1) Careful and accurate anatomical restoration of the cut tissue planes, (2) The avoidance of so called "dead spaces," (3) Complete hemostasis taking care to traumatize as little tissue as possible. Unusual strains, increased acidity due to systemic intoxication and infections are also causes of wound rupture.

Wound rupture often occurs without premonitory signs, that is, in the absence of infection and drainage. When infection and drainage are present, obstruction seldom results. Commonly, however, the wound is seen to exude a watery blood-tinged material, and frequently the general condition of the patient is poor. For this reason wound rupture should be suspected in those cases in which there is a profuse sero-sanguinous discharge from the abdominal wound and the patient is vomiting and otherwise convalescing unsatisfactorily.

In wound rupture all the layers of the wound give way widely and there may be complete evisceration with intestinal loops lying on the skin of the abdomen. In other cases all layers give way except the skin. Intestinal loops may then escape and come to lie just below the skin. Adhesions between them and the abdominal incision may became so firm as to cause kinking and obstruction. In the usual case diagnosis is obvious because local bulging can characteristically be seen in the region of the operative incision, this bulging is increased on coughing or straining. If wound rupture is suspected in a case in which no bulging is present one should not hesitate to probe the wound. This will generally be sufficient to determine the condition of the wound.

The treatment of cases of wound rupture consists in reopening the incision, separating any adhesions that may be present between the walls of the incision, omentum and intestinal loops and gently replacing the eviscerated organs. The wound should then be sutured. Theoretically secondary suture should be done layer by layer carefully dissecting out the tissue planes and approximating them layer by layer. Practically this is not always best because of the tissue changes that have taken place. Most of the time a "through and through" suture preferably of silk, linen or silk worm gut is best. The wound is sutured so as to just get approximation. Care should be taken not to tie the sutures too tight and strangulate tissue.

Secondary closure of the wound is usually best performed under local infiltration anesthesia. The straining incident to the administration of a general anesthetic being inadvisable for obvious reasons. If, however, the patient is of a nervous temperament one should not hesitate to give a general anesthetic.

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Wound healing in these cases generally takes place kindly and without post operative herniation.

Dilation of the stomach occurs most frequently following gastric operations, biliary surgery, and operations on the female pelvis. The mechanism of the development of the condition is not well understood. Two theories of gastric dilation have been proposed. (a) One assumes that the dilation of the stomach is secondary to the mechanical obstruction high in the small intestine, (b) The other postulates a condition of paralytic ileus involving the stomach wall and possibly the upper part of the small intestine as well.

It is easy to understand how edema about the margins of an artificial stroma between the stomach and intestine might cause virtual obliteration of such an outlet to the gastric contents, or to picture a kinking of the intestine in the neighborhood of such an opening obstructing it. The occurrence of gastric dilatation, however, is not confined to cases in which gastro-enterostomy has been done and consequently such mechanisms can not explain all cases.

By a process of exclusion therefore, and in the absence of other possibilities one must assume that most cases of gastric dilatation represent essentially a paralysis of the muscular coats of the stomach. The essential etiology of this paralysis is not known, but it most probably consists of some kind of intoxication.

Dilatation of the stomach usually becomes recognizable within twenty-four to forty-eight hours post-operatively. The patient has probably vomited more than the average case. He begins to complain of a sense of epigastric fullness and distress and also to evacuate from the mouth large quantities of thin brownish or greenish black fluid. The manner of evacuation of this fluid is important, it is not vomited in the usual manner, but flows out of the stomach without much effort, a process which has been described as "overflow vomiting." This vomiting does not give relief and as time goes on the flow becomes almost continuous.

Physical examination at this time will show a patient in marked distress with distention of the abdomen especially in the left upper quadrant. On percussion a large area of dullness will be elicited corresponding to the dilated viscus.

Lavage is the treatment par excellence in these cases and should be begun as soon as the diagnosis is made. We prefer the Levin type of tube, introduced through the nose. Usually the tube is passed without inconveniencing the patient and the relief is almost instantaneous. Large quantities of fluid will escape by siphonage. The tube is left in place and irrigated with warm soda bicarbonate solution at intervals of four to six hours. It will be found that in these cases much more fluid will be drawn off than is consumed, often three, four, or even five liters. A check should be made at intervals, often the blood chemistry will show a highnon protein nitrogen and carbon dioxide combining power of the blood. The blood chlorides will fall. This being the case hypertonic saline solution of three to four per cent should be given along with glucose of five to 10 per cent, care being taken to introduce as much fluid as is being removed. If the water balance is maintained and the blood chlorides are helped up, practically all of these cases will survive.

When one considers the question of immediate post operative intestinal obstruction, it must be in association with post operative so-called adynamic ileus, and there are few post operative questions which may be as difficult to settle as is that of whether or not persisting postoperative distention is due to a mechanical obstruction or a paralytic ileus.

Cases of post operative ileus occurring within a few days of an operative procedure are usually directly dependent upon acute peritonitis either localized or generalized, and the obstruction is caused by agglutination, by plastic exudate, of one or more coils of intestine to other coils of intestine, or other intra-abdominal viscera. Cases which occur later than this but still within the period of convalescence are usually due to residual abscess formation. Cases which occur after the convalescence are due to strangulation of intestinal viscera by bands of organized adhesions. These cases will not be considered in this paper.

In the early stages the symptoms of ileus consist of abdominal distention, pain, and nausea. Inasmuch as these three symptoms occur to a greater or less extent in most patients convalescent from laparotomies the differential diagnosis between incipient ileus and a number of other post operative complications like gastric dilatation, dehydration, disturbances of acid-base balance and general peritonitis is usually exceedingly difficult.

A majority of the cases of post-operative obstruction will be found in the small intestine. The probable reason for this is because of its length, its mobility, its long mesentery and perhaps in some cases its relatively small caliber. There are usually several distinguishing clinical features which serve to separate this lesion from that of paralytic ileus of non-mechanical origin. The abdominal distention accompanying small intestinal obstruction low in the ileum is low in the abdomen usually with the upper abdomen flat; with obstruction higher in the ileum, the distention is obviously more marked on the left side. In patients with paralytic ileus, the distress is due to general distention without th elocalizing peristaltic cramps which so frequently characterize small intestine obstruction. When peristalic cramps are present in adynamic or presumed paralytic ileus, if gas is not soon passed with enemas, hypertonic saline and glucose intravenously and other measures, one should suspect the obstruction is mechanical and not true post operative non-mechanical obstruction, and undertake measures to relieve it. When sufficient peristalsis has returned to the dilated intestine loops to produce cramps, there presumably is mechanical obstruction if gas is not soon expelled.

High jejunal obstructions not infrequently occur as the result of jejunal loops becoming kinked and adherent to upper abdominal wounds, and do not result in any characteristic distention. Patients frequently, however, are able to sense high jejunal blockage, and can tell by their feelings whether or not material passes partly through the obstructed loop or encounters complete blockage. They are also often able to locate the level of obstruction quite accurately on the abdominal wall.

There is nothing more disturbing than to watch a patient with marked and persisting post operative distention and wonder whether or not one should reoperate on such a patient, and if so what operative procedure should be employed. In general, exploratory secondary operations on patients with distention are most serious procedures and should be undertaken only after the most mature deliberation. Patients with marked abdominal distention are already shocked by the absorption of the toxic intestinal products, and will be further shocked by the necessary manipulation of the distended coils of bowel. (Lahey)

In those cases in which operation is deemed advisable for the relief of a possible obstruction, or even for possible relief of distention, an incision high in the left hypocondrium with an enterostomy in a high loop of jejunum by the method of Witzel, bringing the catheter out through the omentum (Mayo) is the best procedure. If there is obstruction the enterostomy will be above it and if not, it is of greater value to drain even short loops of upper intestines of their very toxic contents than the lower ileum and colon of their contents.

A factor which is often lost sight of in prolonged paralytic ileus is the toxemia of the consequent obstruction. I will repeat, the blood chlorides are rapidly depleted, and there is progressive rise in the nonprotein nitrogen and the carbon dioxide combining power of the blood. In addition to any operative procedure, hypertonic saline solution and glucose should be given in sufficient quantities to maintain the acid-base equilibrium, the upper abdomen should be decompressed by means of the Levine or stomach tube and the lower abdomen by colon tube and enemas as deemed advisable.

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Those cases of persisting distention due to local inflammatory accumulations will often eventually become intra-peritoneal abscesses. Delay and observation will result in the eventual demonstration of the mass and permit its safe and adequate drainage without danger of effusion. No suspected post-operative intraperitoneal inflammatory lesion should be watched without daily rectal examination, and when such an inflammatory exudate is found in the rectum, no attempt should be made to drain it through the rectum until the mass should become fluctuant and localized. Then a pair of long scissors may be introduced through the wall of the rectum into the center of the abscess. That is all that is necessary. No drain need be inserted. The condition is generally relieved by this measure.

Blood transfusion in these cases is often a life saving measure. The 'time to give transfusion is when one begins to debate whether it is necessary or not. Any method may be used that assures that the blood, and all the blood is actually introduced into the circulation. Personally I prefer the Pfarre or Seannell type of outfit.

Hiccup, occuring in a patient convalescing from a serious abdominal operation is not only a distressing sysmptom, but when prolonged may so consume vitality that it becomes the deciding factor in the balance between recovery and death. Carbondioxide inhalations will relieve this condition. After about ten inhalations a mild hyperemia will result The hiccough will stop for a variable period of time. Then the procedure should be repeated as often as necessary. Mixtures of carbon dioxide and oxygen are often used. They have no advantage over the undiluted carbon dioxide.

This paper was written with one purpose and if I have impressed upon you the importance of the blood chemistry in cases of ileus that is prolonged it will not have gone for naught. The blood chlorides must be held up and adequate fluids supplied. If this is done the great majority of these cases will get well.

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"Some Common Errors in the Diagnosis and Treatment of Children

DR. ALAN BROWN
Toronto, Canada

1. NEW-BORN

(a) CYANOSIS—Cyanosis in the new-born may result from atelectasis, intracranial haemorrhage, congenital defect of the heart, or an enlarged thymus Atelectasis, which is an incomplete expansion of the lungs, usually occurs in premature or debilitated infants. The cyanosis is intermittent. Examination of the lungs frequently discloses nothing abnormal, unless the atelectasis occurs only in a portion of one lung, over which area a diminished air entry can be distinguished. Treatment consists in the prompt administration of five per cent carbondioxide and ninety-five per cent oxygen as given by the Flagg apparatus, and oxygen chamber or Drinker apparatus. In addition to this treatment the infant should be made to cry vigorously. Congenital heart defects may be recognized on routine examination, while the cyanosis present in these cases is constant and is increased by the effort of crying. Cyanosis due to an enlarged thymus is intermittent and can only be diagnosed with certainty by X-ray examination.

(b) THYMUS—There still is considerable scepticism as to the possibility of enlarged thymus in certain sections of the country, but anyone who has had four sudden deaths in apparently normal infants, as I have experienced, eight years ago, previous to our study of thymus disease, and have. since the employment of X-ray therapy, seen no death, will not fail to be convinced that the condition exists as a definite clinical entity. In the new-born the most outstanding symptom is cyanosis. The other most frequent symptoms are sudden attacks of pallor, breath holding spells (not all breath holding spells are due to the thymus), convulsions and slight difficulty in breathing similar to that produced by a mild degree of laryngeal obstruction. In the newborn this difficulty in breathing may be so marked in the severe cases that the symptoms resemble asthma. Although retrosternal dulness may be detected at the level of the first and second intercostal spaces, a definite diagnosis can only be made by means of the X-ray or fluoroscope. In infants with only slight enlargement the shadow will extend just past the lateral borders of the sternum, while in marked cases the shadow will extend many centimetres on each side of the mid-line. At the present time we do not as yet know the exact variations in the size of the gland, but we do know that infants with only a slight enlargement have very mild symptoms, if any. We have never seen a severe or fatal case without a marked enlargement of the gland. Care must be taken in the diagnosis of enlarged thymus, as at the present time there is a tendency to consider many unexplained symptoms as due to this disease. The treatment consists in repeated exposure to roentgen rays, and this, to the best of our knowledge, will absolutely cure the condition.

(c) CEREBRAL HAEMORRHAGE—Cerebral haemorrhage is the greatest menace that jeopardizes life and well-being of the new-born. A long second stage labour, precipitous delivery and difficult obstetric procedures are the chief offenders. The usual signs of haemorrhage are drowsiness, difficulty in sucking or swallowing, feeble or whiny cry, fretfulness and intermittent cyanosis. It should be borne in mind that one or all of these symptoms may be present in a mild degree in only a difficult birth delivery, without any actual injury. The diagnosis may be confirmed by spinal and cisternal puncture, preferably the latter. Resuscitation of the the asphyxiated newborn is more effective, the less drastic the procedure. Obstetridtions have justifiably denounced brusque manipulations, not because they are productive of bodily trauma, but rather because they either aggravate an already existing intracranial injury, or may actually produce dural injury especially in the premature infant. The veins of an asphyxiated infant are engorged, and hence more readily traumatized, particularly at birth when a tendency toward bleeding may prevail. Very frequently resuscitation appears to have been effective, when a gradually increasing haematoma induces frank symptoms of intracranial haemorrhage on the second or third day. As previously mentioned, 5 per cent carbondioxide and 95 per cent oxygen should be administered in the form of the Flagg apparatus or an oxygen tent, but it should be borne in mind that no carbondioxide mixture can stimulate respiration unless the air passages have first been cleared of mucus, and the lungs first expanded. In severe traumatization of the respiratory centres the most effective therapy is to place the baby in the Drinker respirator. All the baby except the head is enclosed in an airtight chamber, and subjected alternately to atmospheric and carefully measured negative pressure. Thus, air is drawn into the lungs by gentle expansion of the chest without danger of pulmonary rupture, which may come with uncontrollable violent efforts with mouth to mouth insufflation, or various manipulations attempted in different forms of artificial respiration.

Pressure symptoms resulting from intracranial haemorrhage, or pronounced cerebral oedema as a signal of haemorrhage, may be relieved either through the vascular route or through the cerebrospinal canal. The former involves the intravenous injection of hypertonic glucose for decrease of the degree of cerebral hydration and oedema, while the latter consists of the actual removal of fluid by spinal or cisternal puncture. Cisternal puncture should be done immediately after birth whenever the spinal puncture fails to withdraw fluid. The sooner relief is obtained from the symptoms of pressure below the tentorium, the more hopeful the survival of the infant. The moral problem of sparing an infant from potential spastic paraplegia, if he survives the birth lesion, is a dual issue, because this condition as well as others have unnecessarily been associated with intracranial injury as an etiological factor at birth.

(d) HAEMORRHAGIC DISEASE—Haemorrhagic disease is not infrequently a factor, and so every effort must be made early to diminish the escape of blood from the slightly injured vessels in the course of birth trauma, or in the manipulations of resuscitation. The clotting and bleeding times are determined the first day of life when an apparently quiet infant has suddenly become restless and irritable, the cry high pitched, the breathing irregular with intermittent cyanosis and occasional nystagmus. After cisternal puncture, daily injections of blood should be made to increase the clotting function sufficiently to prevent oozing through the very fragile vessel walls. There is a small group of infants whose mothers have been denied a sufficient amount of protein during pregnancy, sufficiently to suppress clotting function in the new born. Finally, there are infants born with a tendency toward haemorrhagic disease which, if present, together with intracranial injury, aggravates unduly cerebral haemorrhage. These factors, though small, tend to prolong the escape of blood from injured vessels, and this contributes to the causation of the continuance of serious cerebral haemorrhage. In order to combat this situation a solution composed of 3.0 percent gelatin, 5.0 per cent glucose and 0.5 per cent sodium chloride should be administered hourly by means of a Breck feeder—the gelatin to decrease the haemorrhagic tendency, the glucose to elevate the blood sugar and the sodium chloride to improve tissue hydration. (Kugelmass)

For the convulsions resulting from cerebral injury, the administration of calcium bromide in 3 grain doses every 4 hours between feedings, and the rectal administration of one grain of sodium amytol in one ounce of one per cent magnesium sulphate solution are very satisfactory.

2. NUTRITION

(a) HUNGER AND COLIC (Eugene Rosamand)—One of the most frequent diagnostic mistakes regarding the nutrition of the infant is the error of confounding colic with hunger in the new-born. New-born infants suffer nowadays not from overfeeding with breast milk, but from lack of it. For every case of underfeeding we probably see 99 cases of so-called hunger colic. Practically all young mothers, overtaxing their strength in their eagerness to be up and about after their long confinement, harried by old wives' tales and conflicting advice of well-meaning neighbours, secretly afraid of her new baby, and frightened that he is going to die at every squirm and grunt and yawn, run short of milk toward the end of the day.

"Milk production is milk production, whether in womankind or the lower animals. A Jersey cow if frightened or teased about her calf will give perhaps a quart of milk at the next milking time instead of the expected three gallons. Even a hog or a dog that drives her from the pasture, or a strange milker will affect the quantity of her milk. A woman is much more susceptible to nervous reactions. Milk production in all our minds is associated with green meadows, still nature and kind faced old cows standing in quiet streams (not listening to a baseball game or a prize-fight over the radio)."

"A modern, educated woman is not a kind faced, stolid milk machine, and so she always at some time or other runs short of milk. And then the baby cries. And when the baby cries his stomach hurts him. Have you ever thouhgt how the whole world is obsessed with the idea that every time a baby cries his stomach hurts him? The pediatrist has added ears to the list of places a baby can hurt, but when the ears are examined and found normal, then he too usually says the baby's stomach hurts him. So night after night when the tired worried mother runs short of milk, the baby cries. He cries, he screams, he gets red in the face and doubles up; he kicks and straightens out, and rears back in a perfect paroxysm of "rage"; he gnaws at his fist and his mother's face; he tries with every way he knows to show he is hungry, but still he has the stomachache. Finally when he is comfortably full of hot water or medicaments he goes to sleep, and he awakens the next morning as if nothing had happened. But the next afternoon, late, when the tired family wants to go to bed he "pulls another party." He is a smart looking baby; he holds his head up well and his back seems strong. He is preternaturally bright and the neighbours all say they never saw such an intelligent looking little baby. He is a light sleeper and the whole family has to be quiet to keep from waking him. Occasionally a young father, untrammelled by old womens' tales will have a lucid idea and say "If that were a puppy I'd say he was hungry and feed it." And there is no better appeal to their understanding than the illustration of the hungry puppy. The signs of hunger in other animals are usually recognized, because they are not hedged about with a mass of superstition and empirical nonsense. The hungry puppy is wakeful. He wakes with the slightest scrape of the foot on the floor. He gets up every few minutes and hunts for a softer place to lie. He is the smart dog who handles himself well, and in begging for food is all a-wiggle as if his muscles were of rubber. He is preternaturally smart and bright. Usually he is the runt who is crowded away from the breast by the stronger puppies, and because he appears smarter he is considered the pick of the litter. The full puppy is lazy and stupid and relaxed."

"The full baby is a stupid little animal. One who is easily waked, who is especially smart and intelligent looking, one who handles himself too well for his age, he is a hungry baby. You can walk in the nursery, take one look at such a baby and absolutely diagnose the cause for your visit just the same as you can stand at the foot of the bed and see a rapid respiration with flushed face and an expiratory grunt, and know the baby has pneumonia." (Eugene Rosemond)

There is no difference of opinion as to the therapy in hunger colic.

(b) PYLORIC STENOSIS AND HYPERTONIA—In spite of the vast amount that has been written on pyloric stenosis there still exists failure to differentiate it from hypertonia (vagotonia). In pyloric stenosis the cardinal symptoms are forcible vomiting, loss in weight, diminution in fecal and urinary output, while on examination the typical waves may be seen, and on palpation the tumor felt. In contrast to this, in the hypertonic infant, one obtains a history of incessant crying (unrelieved by dietary change), often forcible vomiting and either diarrhoea or constipation, and often indeed the mother will volunteer the information that the infant appears to be very strong for his age, and on examination it is noted that the baby's muscles are in a constant state of contraction and relaxation, that he will almost stand alone, and that he can be lifted by the elbows without giving way at the shoulders. These facts, together with a continual hyperextension of the head, confirm the fact that he belongs to the vagotonic group. Confirmation of this may be obtained by applying the therapeutic test (just as orange juice in scurvy), and give one dose of 1-1000 grain atropine sulphate. If the infant belongs to this group he will exhibit at least partial, if not entire, disappearance of the symptoms. Occasionally larger doses may be necessary, but one or two doses are sufficient for diagnosis, and then the therapy should be continued until the infant reacts normally. All so-called and incorrectly called instances of pylorospasm fall into this group.

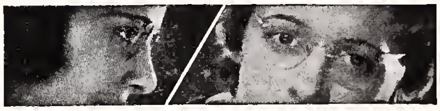
(c) ALLERGIC GASTRO-INTESTINAL DISTURBANCES—When either a new-born or older infant receives its first dose of cow's milk, a series of severe symptoms, viz. vomiting, diarrhoea and prostration may occure immediately after, or some hours following the first dose of milk. Protein skin tests, in instances of this type are invariably negative, yet these infants are successfully fed on foods devoid of milk protein. It is this type of infant that is invariably fed on the so-called "canned directions" and buffeted around from pillar to post without a full appreciation of the etiological factor concerned. It has been successfully demonstrated that it is possible to actively sensitize a guinea-pig fetus in utero, and with this evidence in hand it has been shown that there is a causal relationship in the human subject between the antepartum diet and the sensitization of a human fetus in utero. The new-born infant invariably receives a few ounces of a cow's milk dilution during the first week while the breast milk is being established This procedure introduces the foreign protein to which the infant later becomes sensitized, and may react many weeks or months later when a further addition of cow's milk is made.

3. RESPIRATORY

(a) COLDS—Colds or mild respiratory infections and their complications are the most common infections that the physician is called upon to treat. In spite of their prevalence little is known regarding specific therapy. The general consensus of opinion is that it is a virus disease spread through contact with infected individuals, and that it is not simply a case of "open the window and influenza." The only draughts in this world that are of value are bank drafts, and they are all too few at the present time. Draughts don't cause colds any more than cold feet or wet clothes, and physicians dealing with small infants, especially premature ones, should realize this because it is the complication of head colds that carries off premature and weakly infants with bronchopneumonia. Colds are only treated by prevention, as is well illustrated by the old New England epitaph:

"Here lies our wife, Samantha Proctor;
She ketched a cold and wouldn't doctor;
She could not stay; she had to go.
Praise God from whom all blessings flow."

This makes Samantha out a stubborn ignoramus, which is manifestly unjust. No doctor could cure a cold then, and no doctor can cure a cold now. Until the scientists find out a great deal more about colds, the cynical old medical joke will still hold good: "An untreated cold lasts fourteen days, while a treated cold can be cured in a fortnight." These somewhat jocular remarks are spoken in all earnestness to emphasize our helplessness in treatment, and to in-



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dicate the importance of prevention of contact of weakling infants with infected individuals. Lastly, all children of the runabout age and older should be kept in bed, not only till the temperature is normal, but till the patient is symptom free, in order to more readily prevent the serious complications.

(b) BRONCHIECTASIS—Bronchiectasis is a much more common disease of childhood than is generally appreciated. It must be differentiated from any disease which is characterized by a chronic or frequently recurring cough, particularly if the latter is productive. Generally speaking it runs a more protracted course and interferes less with the general health than other illnesses with which it might be confused and, further, is more commonly associated with clubbing of the fingers than any disease of children, not excepting congenital cardiac trouble. The following are some of the chief diseases from which it must be differentiated:

Chronic bronchitis should only be diagnosed after bronchiectasis has been excluded. Genuine cases do occur, usually secondary to asthma or severe upper respiratory disease, but their presence does not exclude bronchial dilation as the basis of the pulmonary condition. Its presence should be regarded as more than likely if, after removal of the focal infection, the symptoms and signs persist. Bronchiectasis is usually of longer duration, often dating almost from birth; the cough is more constant; the sputum is more abundant and frequently malodorous. Hemoptysis may occur. The physical signs in bronchiectasis, while variable in their extent, are more frequently localized in one area in which they are constant. Cardiac displacement is absent in bronchitis. Clubbing is absent. The X-ray in bronchiectasis may demonstrate shifting of the mediastinum, fibrosis, atelectatic basilar shadows, or in more severe cases, honey-combing. In more severe instances of chronic bronchitis careful study of the affected areas filled with lipiodol may be necessary before making a final diagnosis.

Recurring, chronic or unresolved bronchopneumonia should be regarded with suspicion, as most of these are bronchiectatic. The failure of the signs or symptoms to clear up completely, although remissions may occur, is suggestive. Clubbing is almost diagnostic. Bronchopneumonia due to an exacerbation of a bronchiectatic lesion recurs in the same site or sites, and the improvement in clinical condition is not associated with a similar improvement in physical signs. The cough persists between attacks. The radiographic evidence of pulmonary consolidation or fibrosis persists.

Tuberculosis can usually be readily differentiated by the disproportion between the physical signs present in bronchiectasis with the relatively good health. Cough is much more severe and productive in the latter. The lesion is usually in the lower lobe rather than in the upper, as in tuberculosis. The sputum is repeatedly negative for tubercle bacilli. Fever is absent in bronchiectasis except during flare-ups.

Lung abscess, due to the aspiration of a foreign body, can often be differentiated only when a bronchoscopic examination is made and lipiodol injected. When this is done one is frequently surprised to find the typical bunch of grapes of bronchiectatic cavities rather than a single abscess cavity. The time element does not preclude this possibility, as it may develop within three weeks of the foreign body inhalation.

4. CARDIO-VASCULAR SYSTEM

(a) HEART MURMURS—Among the most common and most frequently made errors in diagnosis in children's medicine, is in the different diagnoses of the various heart murmurs. This is especially true in the case of the medical inspection of school children, when the mother is often told that her child has heart disease, because it has a murmur, while if the nature of the murmur had been more carefully analysed, it would be found to be only functional in character.

Heart murmurs may be divided into three groups; congenital, functional and acquired. The congenital heart murmur is present from birth. It is loudest over the base or body of the heart, and the intensity varies from the very faintest sound to the loud machinery type of murmur. The intensity fo the murmur bears no relation to the severity of the lesion. Enlargement of the heart takes place to the right. Functional murmurs also occur over the body of the heart and are not transmitted. It is always a very soft blowing systolic murmur and frequently disappears on exercise. Examinations over a long period of time may be necessary in order to make a definite diagnosis. Acquired heart murmurs differ considerably from the above mentioned conditions, and a point of very great practical value in the differential diagnosis is that acquired heart disease is quite rare under four years of age. The character of the acquired heart murmur in children is the same as in adults. The murmurs most frequently encountered are systolic in time, heard best at the apex and transmitted toward the left. A history of sore throat, rheumatism or chorea is usually obtained.

5. GENITO-URINARY TRACT

(a) PYELITIS (Chronic)—This disease during the past few years has undergone a complete revision as far as diagnosis and therapy are concerned. Prior to this period all cases with pus in the urine and associated symptoms were treated either with alkaline or acid therapy. depending on the school to which you belonged. With the advent of more exact methods of diagnosis such as pyelography and cystography, the latter method of treatment has become more rational and permanently effective, because undoubtedly many, and perhaps all, of our chronic cases of pyelitis heretofore continued on to adult life, when they were more carefully diagnosed and extensive damage to one or both kidneys found.

During the last three years there have been 40 cases of persistent pyelitis admitted to the Hospital for Sick Children, nine of these being under two years of age. In 27 of these a diagnosis of pyelitis was made on admission from the symptomatology of the case. In some, there has been a long-standing history of recurrent frequency, fever and abdominal pain, while in others, the case was admitted as ar acute pyelitis, but on investigation was found to be due to anomalies of the urinary tract.

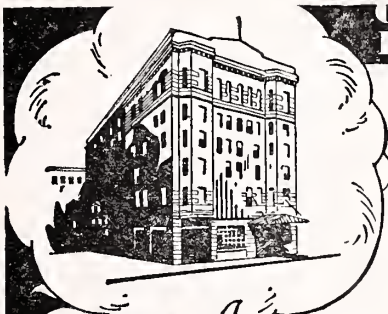
In the children under two years of age, five of the nine caess were admitted with a diagnosis of malnutrition, nasopharyngitis and digestive upsets. In the older children there were eight admitted with a diagnosis of renal calculus, meningitis, eneuresis, influenza, nasopharyngitis, adenitis and cystitis. In the case of the renal calculus there had been severe colicky pain radiating down the right groin, but on investigation there was found to be a right hydronephrosis produced by an aberrant vessel. In this instance the urinalysis was negative on each examination. The diagnosis of meningitis was made on the fact that there was high temperature associated with convulsions. Further investigation revealed a normal cerebrospinal fluid, but pus and a trace of albumin in the routine urinalysis. The diagnosis of nasopharyngitis and influenza was made on the elevation of temperature, general constitutional disturbance and negative physical findings, except a red throat. The cases of eneuresis were long-standing, but there were no other symptoms pointing to a urinary tract infection. In all of the above cited cases the routine urinalysis was responsible for the true diagnosis.

From our observations we feel that all cases of acute pyelitis lasting, or better resistant to alkaline therapy beyond one month or six weeks require careful genito-urinary study, and furthermore, emphasis should be laid upon the importance of a microscopic examination of the urine in all sick or ailing children, because the symptomatology is often too unreliable to make a diagnosis of genito-urinary lesions.

(b) AMMONICAL DIAPER—The chief symptom of this condition is the presence of free ammonia in the wet diaper. Frequently the ammonia is so strong that it "makes the eyes water" when the diapers are being changed. As a result of the local irritation produced by the ammonia, there may be excoriation of the buttocks and genitalia. Indeed, in many cases the infant is brought to the physician on this account. The condition is due to a decomposition of the urea and ammonium salts in the urine, with the resultant liberation of ammonia. The whole process takes place in the diaper after the urine is passed. The treatment is very simple. One-third of a teaspoon of baking soda is given daily in each of three feedings. This results in the replacement of some of the ammonium salts in the urine by sodium salts. The amount of fat in the milk should be reduced as this diminishes the amount of acids excreted in the urine. These acids frequently require ammonia to neutralize them. The diapers after being washed should be soaked for an hour or two in a saturated solution of boracic acid. They should then be thoroughly rinsed before use. This both sterilizes the diapers and removes all traces of soap. If these measures are carried out the odour of ammonia almost invariably disappears. The excoriated areas on the skin should be washed with olive oil and then covered with cornstarch. Exposure of the parts to the air facilitates healing.

6. AMENTIA

(a) MONGOLISM AND CRETINISM—These conditions of defective mental development are frequently not differentiated by the family physician. The vast majority of mongolian idiots are referred



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with a diagnosis of cretinism. A survey of the records of our Hospital shows that mongolian idiots are encountered more frequently, as during the past five years 43 mongolian idiots were admitted and only 12 cretins.

The facies of the mongolian idiot is quite characteristic. The eyes are almond-shaped and slant downwards and inwards. The epicanthic fold is marked. These characteristics become more evident when the child cries. The tongue usually protrudes, and only in this respect does the appearance of the mongolian idiot resemble the cretin. In a number of cases the external ear is crinkled due to mal-development of the cartilage. Congenital defect of the heart or palate is frequently present. The head tends to be flattened from before backwards. The hands are short and stubby, and the little finger is frequently curved inwards (baseball fingers). Hypotonicity of the body is marked, and the feet can readily be placed behind the head. These infants are subject to frequent head colds and usually die of a bronchopneumonia during the first two years of life. No treatment improves the condition.

Cretinism is the result of a congenital deficiency or absence of the thyroid secretion. The features are coarse. The skin is dry and doughy but does not pit on pressure. The nose is broad, the lips thick and the jaw heavy. The tongue is large and protuberant. The hair is coarse and wiry. The extremities are short. The temperature tends to be subnormal. The administration of thyroid extract produces a marked improvement in from one to two months and may be used as a therapeutic test to distinguish cretinism from mongolism. This treatment has to be continued throughout life. The dosage at first is usually about one-half grain three times a day, which is not increased as long as the patient shows physical and mental improvement. If necessary, as much as 10 to 15 grains daily may be given. Evidences of overdosage are increased perspiration, pallor, prostration, and an abnormally high pulse rate. A more exact method of obtaining the proper dosage in a given case is to measure the basal metabolic rate. Although the physical development may become normal these patients are always mentally backward.

7. SURGICAL

APPENDICITIS—That appendicitis is a serious disease in children is borne out by the following facts: In the past nine years there were 888 patients admitted to the Hospital for Sick Children with appendicitis. Of these, there were 385 clean cases operated on with no deaths, while there were 503 instances of a ruptured appendix with a mortality of 15 per cent, and most of these were in children under 5 years of age. Any disease that has such a high death rate merits careful consideration. The points to be emphasized in this series are the fact that the clean cases had no deaths among them, together with the high death rate among the ruptured cases. Any surgeon can diagnose a case of acute appendicitis in a child, but it requires all the skill and ingenuity of a physician to make a diagnosis of chronic appendicitis. There is not a shadow of a doubt that most instances of chronic appendicitis are diagnosed as recurring abdominal pain or colic, intestinal grippe, intestinal indigestion, enterospasm and mesenteric adenitis, and the true nature of the condition not fully appreciated until the child's life is endangered when the appendix has ruptured. A recapitulation of the histories of most of the cases of ruptured appendicitis reveals the fact that the patients had suffered for a varying length of time from a so-called obscure or indefinite pain in the abdomen, usually attributed to some abnormal article of diet or some other acute illness such as intestinal grippe or mesenteric adenitis extending over a period of months or years.

Chronic appendicitis in children is not diagnosed by X-ray examination, but by eliciting a careful history which invariably reveals a story of ill health, malnutrition, occasional attacks of vomiting, more or less chronic constipation associated with epigastric pain. Examination of such a patient reveals the fact that pressure over the epigastrium produces pain in the region of the appendix and vice versa. Not infrequently the pain is located around the umbilicus. Occasionally the appendix may be found to be tender on deep palpation.

It is the conclusion of the Medical and Surgical Staff of our Hospital that it is much wiser to remove a normal appendix than to run the risk of its becoming acute and rupturing with the attendant high mortality.

8. MISCELLANEOUS

(a) FATIGUE—I feel that one of the most prevalent conditions that is omnipresent and has always been with us but not recognized, is that of fatigue in the child of pre-school or school age. *"Why is one child tireless, with resources of strength that nothing seems to exhaust, while another is unable to stand any strain without showing in one way or another unmistakable signs of fatigue. With certain children any excitement, pleasurable or painful may show its after effects in irritability, lassitude or disturbed sleep or even failure to concentrate on lessons."—Hector Cameron.

Children of this type usually come from highly strung and sensitive families, gifted with much nervous energy. In the family record we usually find a history of headache, migraine, asthma, eczema and other disorders of metabolism which are apt to become evident at times of strain or stress. A clever child with good mental powers often has this undue liability to fatigue, while a slower child mentally may be comparatively tireless. His signs of fatigue (physical) may be pallor, twitching, sleeplessness and irritability, while in many instances from the mental standpoint he exhibits his fatigue by lack of concentration and confusion of thought. In many children of this type we often encounter metabolic disturbances such as headache, bilious attacks or cyclic vomiting, recurring abdominal pains, fainting and cardiac disturbances.

"We do not know precisely the nature and causes of fatigue, but biochemical studies have at least given us some insight into the character of the processes at work. The source of all energy, whether it is expended upon physical exertion or devoted to intellectual work or consumed in emotional outbursts, is de-

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*The Nervous Child at School—Hector Cameron—London Oxford Press.

rived directly from carbohydrate. The carbohydrate resources of the body are comprised of the circulatory content of sugar in the blood, which by a whole series of elaborate mechanisms is always preserved at a level which varies only within prescribed limits, and a somewhat meagre reserve or store, distributed in the form of glycogen, equally between the liver and the muscles. The carbohydrate is the fuel of choice on which the body normally runs itself. When, however, the carbohydrate has been lowered to a certain point, beyond which in health it is not allowed to fall, the second or reserve supply of fuel is brought into play. This is stored not as carbohydrate, but as fat, mainly in the subcutaneous fatty depots of the body.

Before the reserve of energy stored as fat can be utilized, it would appear that it must first be transformed again into carbohydrate. The synthesis, in other words, is reversible. Excess of carbohydrate in the diet is stored as body fat, but when this store is drawn upon, it must be converted again into sugar. In certain persons and especially in young children this conversion of fat into sugar is only achieved with difficulty. In that common disorder, which is somewhat loosely called acidosis, when the store of carbohydrate runs low and the body is thrown back upon its reserves of fat, we find that a very great deal of body fat is wastefully consumed in the production of but small quantities of sugar. Some carbohydrate is obtained, because the blood sugar is found to rise even if no carbohydrate has been given by mouth, but much of the synthesis fails and stops short, as it were, at the stage of the acetone bodies with which the blood is flooded and which appear in the breath and in the urine. In the absence of sufficient carbohydrate the metabolism of fat is disordered, whether the fat is obtained from the body fat or administered in the diet.

When the glycogen content of the liver is high all its activities appear to be favorably influenced. When the glycogen is removed from the liver there takes place immediately a corresponding invasion into the liver cells of fat globules and it is evident that with the replacement of the glycogen by fat in the liver, the efficiency of the action of the liver deteriorates. When a plentiful supply of carbohydrate is again available the glycogen at once begins to reappear in the liver and the invading fat globules are removed.

In states of intense excitement and of great muscular activity the carbohydrate reserves are rapidly mobilized and pass from the liver and muscles into the blood stream where they are consumed. In reaction after excitement and often exertion, when the flush and muscular tension of activity has given way to pallor and muscular laxity, the carbohydrate reserve is found to be low."

Fatigue, then, seems associated with a state in which the carbohydrate reserves are reduced to a low level, in which the organism has to draw upon its

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reserve of fat and in which the liver is inactive and the muscular system low and toneless. We can never be too tired, too pale, too limp and prostrate not to be refreshed, to gain colour and tone and energy from sugar. The choice perhaps lies between alcohol and sugar, but in states of considerable exhaustion fat is always poorly borne."

"By the time school days are reached, as a rule, the symptoms which have become so familiar in early childhood have declined unmistakably in severity. Bouts of vomiting may now be things of the past; yet the underlying tendency to suffer unduly from fatigue and the too sensitive temperament remain. Of the boys and girls who grow tired and thin and pale at school a high proportion will be found, in one form or another, to have suffered from acidosis. It is as though we were dealing with a later phase of the same disorder. School life is often of itself curative of nervous troubles of all sorts and of their related manifestation such as fatigue and acidosis. But when fatigue does present itself at school it is seldom that it has not manifested itself in the preceding stages of nursery life."

It is unnecessary for me to describe the appearance of this type of child which is all too well known to us with his or her pallor, highly strung, nervous and fidgety appearance, together with the usual postural defects commencing with round shoulders and extending to the feet with their relaxed ligaments. Added to this we have the toneless vaso-motor system expressed by flushes, pallor and the grey and drawn appearance.

Concerning treatment, as in every branch of medicine, it depends upon removal of the cause and this must be determined by a careful inquiry into the home and school environment and a complete investigation of the previous life history of the child, in order to determine his or her type.

From what has been said upon the nature of the biochemical changes involved in the state of extreme fatigue, it follows that something can be accomplished by the provision of a free intake of easily available carbohydrate.

"In short, in the state of fatigue, it is important to construct a diet which throws as little strain upon the liver as possible, and a free provision of sugar is perhaps more important and more efficacious than a strict limitation of fat. It would seem that the greater the pace at which we live, and the greater liability to fatigue, the more we have to rely upon sugar as a source of energy and a means of restoration. Especially is this so when alcohol has fallen out of favour as a medicinal prescription. The younger Pitt who suffered intensely from fatigue, and what would now be called acidosis, went to Cambridge at the age of thirteen with a nurse in charge and a bottle of port a day to ward off his attacks. When Shakespeare wrote, sugar was a delicacy rarely found in the houses of the people. He speaks very often not of things sugared but of things honeyed. Demerara and the West Indian Islands were sufficient to cope with the need for sugar in the placid life our ancestors lived in the 18th Century. Before the world's pace could accelerate and New York set the fashion of hustling, was it necessary that man should create a boundless supply of sugar from the sugar-beet, available at a low price?"

Aside from the lowering of fat in the diet of these children it is important to give sugar at the proper time. The exhausted child seems to withstand badly even the normal and physiological starvation of the night. It is in the early morning, some twelve hours perhaps since he has replenished his store of carbohydrates, that his suffering is apt to be at its worst, that he is most pale, irritable and torpid, just as it is the early morning that commonly sees the onset of vomiting in an attack of acidosis. It has been found satisfactory to give these children 1½-2 ounces of glucose dissolved in warm water and flavoured with fruit juice the last thing at night and again in the morning. Often as a mid-morning and mid-afternoon snack it is most valuable in place of the time-honored glass of milk. To my mind, the exhibition of this simple expedient has been most successful in handling many of these cases of fatigue even when little else is done for them.

(b) LEAD POISONING—I mention this subject for the reason that up until the last three or four years these cases were undiagnosed as such and were usually thought to be some form of encephalitis either toxic or influenzal in nature. It was not till 1930 that our attention was first directed to it by a description by Park of a dense line, shown in the X-ray, at the growing ends of all the long bones where new bone is being laid down, just adjacent to the cartilage. This dense line or white line may, however, be produced by other conditions and these, therefore, must be taken into consideration before its significance may be determined.

Sources of lead poisoning in children:

A child who has a tendency toward pica may obtain sufficient lead to cause symptoms from many different sources. Metal or wooden beds which have been repainted at home are probably the most common source. New metal beds and cribs as purchased, do not appear to be in any way dangerous because the enamel is baked on in manufacture. Play pens, however, which are made of wood, may easily have the paint scraped off, and if lead is used in the paint, as is frequently the case, they constitute a considerable source of danger. Kitchen chairs and tables, window sills and veranda railings are often repainted time and again in the poorer districts, and the paint used in most cases contains about 65 per cent or more of lead oxide. This thick layer of soft paint is easily nibbled off. Crayons and painted toys may add to the lead intake to a minor extent.

While there are many clinical findings which might suggest a diagnosis of lead poisoning, the actual recovery of lead from the excretions is the only method of making a positive diagnosis. The lead is carried in the blood as colloidal lead phosphate and deposited in the bone as tertiary lead phosphate. This is a very soluble salt, but curiously enough small

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changes in the hydrogen ion concentration of the blood, either to acid or alkaline side, changes the lead phosphate to a more soluble form, and it again begins to circulate in the blood stream. Calcium salts have been found to increase the deposition of lead in the bones, while acid forming salts, such as ammonium chloride tend to free the lead from the bones so that it can be excreted.

The symptoms of lead poisoning in children may be divided into early and late. We have found that it usually takes from two to four months of "nibbling" paint before any acute symptoms arise. The duration of this early period depends not only upon the amount of lead ingested but to some extent upon the amount of calcium and Vitamin D. in the diet. During this period the mother may notice a change in the child's disposition. It becomes cross and irritable, and if old enough may complain of indefinite abdominal pain. Almost complete anorexia may develop, associated with constipation and occasional vomiting. Usually at about this time there is a marked decrease in the child's activity. In one of our cases the mother gave a history that her child, who had previously been walking and climbing up on chairs, had now stopped both of these activities and would sit on the floor crying most of the day.

The late symptoms are characterized by the onset of convulsions and these may occur either following a slight acidosis from diarrhoea or other causes such as upper respiratory infections, or simply when there is sufficient concentration of lead in the brain to produce cerebral oedema. The convulsions may be more or less continuous for a period of twelve to thirty-six hours or may occur at intervals over a period of months.

On examination of these patients, very little may be observed in the mild cases except pallor and irritability. In the cases which we have observed, we have not seen a lead line. Ocular changes have been found, such as choking of the disc, strabismus and even blindness. When cerebral symptoms are marked the fever may range from 101-105. The spinal fluid shows increased pressure together with an increase in the cells and globulin content. The blood shows a moderate anemia and in cases with cerebral symptoms usually stippled cells.

Treatment:

Treatment of cases that are diagnosed before onset of convulsions consists in giving large doses of calcium, either in the form of lactate or phosphate, together with Vitamin D. to increase the absorption of calcium. The management of cases with cerebral oedema consists in dehydrating the brain by the use of magnesium sulphate intrathecally. When the convulsions have been controlled, large doses of calcium should be given. The calcium and Vitamin D therapy should be continued for several months in order to prevent a possible recurrence of convulsions with an acidosis. In our experience deleading is a dangerous process in children and should not be attempted.

9. ANOREXIA

ANOREXIA AND THE BEHAVIOURIST—In 1921, Joseph Brennemann wrote in Abt's Pediatrics: "The child that will not eat represents probably 10 to 20 per cent of children in private practice between the second and fifth years inclusive, with a lesser incidence in the first year." Last year he said: "Now anorexia is not an occasional occurrence, an isolated phenomenon in childhood; it is the rule in that very stratum of society in which mothers are lying awake nights planning a gospel diet and the most effective way of administering it." The lowest estimate of its incidence in private practice, that I know of, is 50 per cent. A scientific survey in a university neighborhood and a paediatrician with a large office practice have placed it at 80 and 85 respectively. A prominent paediatrician recently said that he had "paid for his house with anorexia."

Owing to the proximity of your great country to Canada this product has found an easy sale with us, and most unfortunately the recent Imperial Economic Conference at Ottawa failed to place a heavy duty on its importation, or even a prohibitive tariff to prevent dumping, the result being that I am able to confirm Brennemann's statement quoted above. "Every paediatrician knows these things to be true, and he also knows that they have nothing to do with hypochlorhydria, anaemia, tonsils, vitamin B or body build. The purely psychologic cause becomes evident when it is found that such anorexia occurs only in the home, and is cured rapidly and almost unfailingly when the child is sent to a ward in a hospital without any change in the food."

"The nutritional results of rebellion against forced feeding are still obvious on all sides, although there are encouraging signs of improvement. The healthy child who will not eat is, ipso facto, a behaviour problem, numerically the greatest of all, and as a factor in the pathogenesis of further disturbances in behaviour, probably second to none. One cannot fruitlessly nag, tease, cajole, wheedle, spoof, beg, scold, bribe, threaten, punish, force, weep, or pretend to weep or indulge in all kinds of monkey-shines, from playing the victrola, beating a drum, turning on the radio, singing a song, telling a story or showing a picture book to dancing a jig in order to get a child to eat—all stereotyped occurrences, without admitting failure and without losing nearly all of that wholesome spontaneous discipline that alone leads to a normal behaviour reaction." As Brennemann says:

"If propaganda so simple, concrete and tangibly physical can produce such a colume of abnormal behaviour, what may one expect from a lay interpretation of the profusion and confusion of psychiatric literature, practice and exposition that is being poured out in ever increasing amounts? Mother are unquestionably becoming psychiatrically minded. If there were only one wholly sane, simple and satisfying book on the subject, it would be a Godsend. But when one new book or two or three appear each year, to say nothing of special magazines; when every newspaper and magazine has a columnist or two culling from one authority and then from another; when those parents who elect themselves to educate other parents meet in annual convention with a galaxy of speakers that reminds one of the annual display of grand opera stars; when I. Q.s and B. M. R.s are being swapped at afternoon teas and bridge parties, and sex is discussed as freely as tonsillitis or the "flu"; when the radio slips in a ten minute talk of "Mental Health and How to Maintain It" hemmed in on both sides by jazz; when in other words, not simple, easily graspable, objective things such as weight and height are being dealt with, but intangible, confusing and immeasurable psychic phenomena and propaganda, what will be the result on the lay mind that cannot either escape from it or incorporate it all usefully as applied to the individual chlid?"—Brennemann; Am. Jour. Dis. Child. Vol. 42; No. 2.

I am firmly convinced that in the future there will have to be a greater exhibition on the part of mothers, of the most uncommon thing in the world, namely, common sense.

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Practical Points in the Diagnosis and Treatment of Poliomyelitis*

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Poliomyeloencephalomeningitis is the correct name for the acute infectious disease commonly known as infantile paralysis, as it affects the entire nervous system and as it is not consigned to the period of childhood. The infecting organism belongs to the class of invisible filter passing micro-organisms to which the name viruses is applied. This virus has been found in the secretions of the nose and throat of persons ill of anterior poliomyelitis and of well persons in contact with the sick. Rosenows pleomorphic streptococcus and globoid bodies are not universally accepted as etiological agents. When the virus is applied to the nose and throat of monkeys it passes to the brain and cord and produces the disease and paralysis similar to that occurring in the human disease.

Communication of the disease is by personal contact from throat to throat, and it may be transmitted by the sick or by carriers. Whether or not any other common manner of communication of the disease to man exists we do not know.

Forty-three epidemic outbreaks of acute poliomyelitis of sizable proportions, have been recorded, the last in 1931.

In 1916 in New York City alone, 9,000 cases were recorded.

The disease first appeared in the United States in 1841 and was first described here by Colmer of New Orleans.

In 1890 Medin presented a thorough study of the epidemic in Sweden and since that time the patronymic name for acute poliomyelitis has been Heine-Medins disease.

Wickman observed and described the abortive type of the disease during the great epidemic of 1907 in Sweden.

In 1909 Landsteiner and Popper in Vienna, and Flexner and Lewis at the Rockefeller Institute successfully reproduced the disease in monkeys.

Netter in Paris first used convalescent serum in 1911.

Though the term "infantile" paralysis is a misnomer in the strict sense of the word the greater number of cases occur before the age of three years. Males are affected oftener than females in the ratio of seven to five. Negroes do not seem to have the disease in the same relative proportion as do whites. Whether they have any racial immunity is not known. There is an old and obsolete theory that infantile paralysis never strikes twice in one family. This is not true.

George Draper in his book "Human Constitution and Disease" says that special type child is as necessary as is the specific virus for producing the disease. This constitutional group bears a physical resemblance to each other, are large for their age, of the robust type and have wide intercanthal spaces.

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*Read before the Memphis and Shelby County Medical Society, March 1st, 1932.

They also resemble the group that are supposed to be susceptible to meningococcic meningitis. They are usually brunettes and sixty to seventy per cent of them show a separation of the central incisors. Some are of a distinct Froehlich type.

One attack of anterior poliomyelitis, irrespective of its intensity usually protects for life.

G. F. Still (1) was able to find eight recorded cases of a distinct second attack of acute poliomyelitis, to which he added the ninth case. The intervals varied from two to fifteen years.

Exacerbations, or extensions of the original infection also occur, sometimes several weeks after the onset.

Hecht (2) in a recent article described typical groups of cases under the classifications as follows:

1. Abortive cases. 2. Spinal type. 3. Bulbar type. 4. Cerebral type. The abortive type leaves the patient completely uninjured. These cases according to Draper present the prodromal symptoms, but the clinical course of the disease ends at the period of latency, or just before the onset of the acute stage.

They are usually mistaken for other conditions, such as acute gastroenteritis, influenza, upper respiratory infections, etc., and it is estimated that they comprise as high as sixty per cent of all cases during epidemics. Because later in life these cases may develop deformities of the feet and of the spine due to muscle imbalance, makes it all the more imperative that we, as clinicians, recognize these abortive cases and more quickly resort to spinal punctures in order to clear up any suspicious case where somnolence or hyperesthesia or undue irritability or headache is present in undue proportion to the fever and other clinical symptoms. Especially should we remember this during the months of August and September.

The Spinal type is the one commonly seen and presents the clinical picture of a lower motor neurone disease. From this type the disease gets its name.

The Bulbar type usually begins with difficulty in swallowing and in speech and progresses to paralysis of the respiratory center. The pons and medulla are involved here.

The cerebral type is infrequent, is disputed by many authorities and for a discussion of this I would refer you to Rothman's article on Polioencephalitis in the July, 1931, issue of the American Journal of Diseases of Children.

There is no positive scientific proof as to the efficacy of convalescent serum, yet clinically the early use of convalescent serum has reduced the mortality rate from thirty per cent to less than three per cent, and modern treatment basing its rationale on preparalytic stage presents a distinct clinical entity, and diagnosis can and should be made at this time. It is important to bear in mind that at first we have a systemic infection with prodromal symptoms. This is followed by a varying period of latency and this in turn by centralization in the nervous system with an acute stage followed by paralysis.

The child is more prostrated, the pulse is faster and he manifests more irritability when disturbed than seems proportionate with the physical findings. The throat is mildly injected, he is constipated, he may or may not have vomited and the fever is not high. He is drowsy if left alone and fairly comfortable except for a headache, and in children under five years this may not be found out. If we are not satisfied with a diagnosis of upper respiratory infection or intoxication and not in a hurry we may discover that the child objects to sitting up in bed and supports himself with his hands while in this position.

Anterior flexion of the spine is painful and anterior flexion or lateral rotation of the neck is objectionable.

Kernig's sign is fairly constant. Babinski's sign is absent. Brudzinski's sign is present, but is not marked as in acute meningitis.

Hyperesthesia is present. Cervical adenopathy is frequently noted. The deep reflexes are over active. Pain in the spine and neck are the most helpful clinical symptoms and they suggest spinal puncture.

The spinal fluid is usually under moderate pressure of from 150 to 200 m.m. of water. It may have a "ground glass' appearance when held against the light and the cell count, which should be done immediately, else the cells may dissolve, is increased from thirty to several hundred. They are at this time polymorphonuclears. Later lymphocytes predominate. The globulin is increased. On these findings and the clinical symptoms the diagnosis is made and unless serum is administered before the end of the latent stage and before the toxin has combined with the anterior cells of the cord, we cannot hope to prevent paralysis.

The value of spinal punctures as a therapeutic measure to relieve tension is a debated question. The virus is not found in the spinal fluid. The intravenous and intramuscular routes are preferable in the administration of serum, but it is probably best to give it by all routes.

Given intraspinally it must be absorbed into the circulation before it can reach the cells of the anterior horn.

A single large dose, to secure the highest antibody concentration, is best just as in diphtheria, and I believe the dose should be all the serum available rather than the thirty to seventy-five c.c. usually recommended.

Complete rest is the next essential and is obtained with opiates and no manipulations. No unnecessary movement should be allowed, and a cradle should be so placed that the bed covers will not weigh against the anterior muscles of the feet.

In case convalescent serum is not available a serum should be made from the pooled blood of two or more adults in the immediate family. The blood of dwellers in large cities possess greater virucidal power than those in the country and should be obtained if possible. Small transfusion from one parent plus the blood of another given intramuscularly may be of benefit, since it has been recently shown that in many cases the "serums of family contacts and of normal adults and older children possess greater power to neutralize poliomyelitis virus than the serums of persons who have recovered from an attack of the disease." (3)

Antipoliomyelitis horse serum, as reported by Neustaedter in the Journal of the American Medical Association, March 21st, 1931, is now available and was used by him in sixty cases with good results. The advantages are obvious as it can be standardized, can be obtained in large quantities and is always available.

E. Moro (4) recommends as a preventative the injection of twenty c.c. of blood from one of the parents and repeated at intervals of four weeks through the period of the disease to children under five years of age.

In large cities the blood of any one adult probably would give sufficient protection as nearly all persons over fifteen are immune and their blood possesses antivirucidal power. It must be remembered that in rural sections only about fifty per cent of adults possess antivirucidal power in their blood and here the blood of both parents should be utilized, or better still pooled blood from three or more relatives or better still the blood of an adult living in the big city if this can possibly be obtained.

Prophylactic blood may be drawn from the vein and injected deep into the buttocks or leg muscle of the child, or may be citrated and transported as desired.

Time forbids more than the mention of the orthopedic treatment of the paralyses. No manipulation, no massage, no electrical treatment must be instituted for more than a month. This also applies to voluntary exercise on the part of the patient. The inflamed process in the cord can only be prolonged and healing delayed by such procedures.

In conclusion I wish to again say that I believe a competent clinician can recognize the disease in its prodromal stage. It is a clinical entity and almost by inspection alone should ones suspicions be aroused. The spinal sign and the spinal fluid findings are sufficient evidence for a diagnosis.

I have purposely omitted my own case reports, but wish to state, with all humility for what the morrow may bring, that since 1916 I have been able to make at least a tentative diagnosis before the stage of paralysis in all cases coming under my constant care.

There is a mistaken and wide spread and prevalent idea among the medical profession, that I have heard voiced many times, that the preparalytic stage of poliomyelitis is so vague and so mild and so symptomless that it is never recognizable.

Somnolence, hyperesthesia, tremor, undue irritability, headache, disproportionate pulse and temperature, stiff neck, painful spine and Kernig's sign are not vague symptoms.

If we will add to the routine examination of all patients, and adhere to it with the same unfailing regularity that we look at the throat and ears, the simple expedient of bending a baby double by feet and head, or asking the older child to sit up and bend forward in bed, we will be able to add poliomyelitis to the list of things we know.

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Sodium Amytal In Surgery

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I do not lay claim to any originality in this paper. It is confined chiefly to a review of the literature.

Since the sensitization of the first barbiturate, veronal, in 1903, there have been numerous such drugs put upon the market, one of which. Sodium Amytal, (Sodium-iso-amyl-ethel-barbi-turate) is the subject of this paper. Sodium amytal was first sensitized by Shonle and Moment in 1923 and since that time has been used extensively in medicine, surgery and obstetrics. Its use in controlling the convulsions of strychnine and novocaine poisoning; tetanus, rabies, etc., is a well known fact, but does not come within the scope of this paper; neither does its use in relieving the suffering of labor or the convulsions of eclampsia, as important as they are to all of us.

The purpose of this paper, as the title indicates, is to bring forth to the best of my ability a discussion of the use of Sodium Amytal in the field of surgery which of course includes that of anaesthesia.

As a sole anaesthetic I mention it only to condemn it. By its use as a sole anaesthetic I mean given intravenously in a dosage of about 20 mgs. per kilo of body weight in a 10 per cent solution, or in a sufficient dosage to induce surgical anaesthesia without the use of any other anaesthetic agent. For a few years it received wide acclaim for this purpose, but I think now has been discarded by practically all of our profession. The percentage of failures is generally so large as to make it untrustworthy and the mortality is definitely higher with it than with the inhalation anaesthesias. Drs. Cabot, Maddock, and Lamb after using it in 172 patients conclude that since 75 per cent required additional anesthesia smaller doses would do just as well.

As a hypnotic it finds favor with some. Stedman defines a hypnotic as "a remedy causing sleep." To produce this effect a dosage about half that above is generally used, e.g. 10 mgs. per kilo body weight in a 10 per cent solution, intravenously. This has been used extensively by Dr. Henry Ransome in combination with nitrous oxide and oxygen and he finds that a much larger percentage of oxygen may be used during anaesthesia, and on the whole his results were very satisfactory, to him at least. However, most authorities seem to agree that the intravenous method of administration is a little too radical for the good obtained from it. To my way of thinking, any amount of sodium amytal given intravenously for its pre-anaesthetic effect is not justified. Please bear in mind that I am not talking about patients who are in convulsions from tetanus, strychnine poisoning, eclampsia, etc.; but about the patient suffering only from the surgical malady which brings him to the operating table, in which cases I had rather give the drug by mouth or rectum.

It is as a sedative prior to the taking of an anaesthetic that sodium amytal finds its real use in surgery. Stedman defines sedative as "an agent which quiets nervous excitement."—not an agent which induces sleep or relieves pain. It is for this purpose, for the quieting of nervous excitement, or alleviation of psychic shock that sodium amytal is as nearly ideal as we are likely to find. Particularly is this true of the psychic shock experienced by the patient the night before an elective operation. To those of you who have undergone such an experience no more need be said about the discomfort both mental and physical connected with the long sleepless hours between the time you have said "good-night" to your friends and family, and the nurse and orderly have finished their routine duties to you, and this time you receive your routine hypo next morning preparatory to being taken to the operating room. But to those of you who have not undergone such an experience I will say that to describe it would be to use Sherman's description of war! This nervous excitement or psychic shock is not only a mental discomfort to the patient which leaves him when the anaesthetic is begun not to return again, but a real physical complication to the operation itself which follows the patient onto the operating table and back to the ward and throughout his convalescence until he is discharged either back into his regular life or transferred to the guardianship of the Great Physician. Dr. Krieslman of Washington, D. C., says that it is impossible to estimate the amount of damage produced by psychic shock in some patients particularly in children immediately preceding the induction of anaesthesia. Dr. McKenzie of Aberdeen, Scotland says, "Preliminary medication makes one of the greatest advances in anaesthesia in recent years.

Apart from the anaesthetic itself there is no single factor that has afforded the surgical patient more physical and mental benefit and protection than pre-anaesthetic medication." That this nervous excitement or psychic shock is often the perplexing complication that occasionally throws our borderline cases from the recovery to the mortality side of our record I think most of you will agree.

Most authorities seem to agree that the best way to give sodium amytal pre-operatively for its sedative effect is as follows: for an adult patient three grains by mouth the night before operation and six grains by mouth two hours before operation. Although my paper so far has been based on the assumption that a general anaesthetic is to be used, it is quite as useful before a local anaesthetic and has the added advantage of counteracting the poisonous effects of the novocaine. Some authorities claim that small doses, when given intravenously, make the patient more restless and unco-operative—this is not the case when the drug is given by mouth Many surgeons will insist on the routine morphine gr. ¼ and atrophine gr. 1-150 one half-hour before operation, a procedure which I cannot condemn. but I would like to insist especially upon the three grains of sodium amytal the night before an elective operation. If it can be given an hour and a half or two hours before an emergency operation by all means try it, but do not expect maximum results from sodium amytal before two hours after it is given by mouth. When given shortly before operation it will do little good prior to the operation, but will exert its post-operative influence. I consider it proved beyond much question that sodium amytal will lessen the amount of anaesthetic used and will permit the use of a larger percentage of oxygen. The induction of inhalation anaesthesia is usually found to be quieter when sodium amytal is used before it. That patients given sodium amytal before operation suffer less nausea and vomiting and are able to take more fluids after operation I think is pretty well conceded. If given in the dosage recommended above, patients will experience a long post-operative sleep with loss of memory for events pertaining to the operation.

While the literature on sodium amytal and its use pre-operatively is fairly plentiful the use of the drug post-operatively does not seem to be general. All post-operative patients suffer more or less pain for which morphine is usually the drug of choice. Even so, we all like to discontinue its use as soon as possible, and by combining three grains of sodium every eight to twelve hours by mouth or rectum the amount of morphine necessary is greatly reduced, and in a very few of our perfectly clean cases can be entirely supplemented by sodium amytal. I recently did a simple appendectomy on a negro man, age 25, using a McBurney incision and closing without drainage. He was given three grains sodium amytal every eight hours for three doses then every day for three days. He complained of no pain except a little soreness around the incision; and he experienced no distention or nausea or vomiting. This is the only case in which I have seen sodium amytal used exclusively for the post-operative relief of discomfort. In cases in which the principal cause of pain is a gaseous distention of the bowel we are all aware of the fact that morphine often does more harm by increasing the cause of the pain than it does good in alleviating the pain itself. These patients will, I think, often do better if given no morphine at all.

In conclusion let me say that I think sodium amytal has a definite place in post-operative surgery, but let me particularly re-emphasize its importance in pre-operative surgery; especially the three grains the night before an elective operation to reduce to a minimum the psychic shock immediately preceding the induction of anaesthesia.

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Analgesia In Obstetrics*

W. T. PRIDE, M.D.
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Since Sir Walter Scott suggested a novel Coat of Arms for Sir James Y. Simpson (the first to successfully use chloroform for pain during labor) the obstetrical world has sought an efficient but harmless analgesic.

We have been handicapped somewhat, as Simpson was, by religious fanatics and the physician who says, "let nature take its course."

So we find ourselves after eighty-five years free to suggest and encourage the relief of pain during labor.

What do you expect of an analgesic in obstetrics? First, the mother to be relieved of pain without danger. Second, baby not to be affected. Third, shortening of the labor.

First I wish to review briefly the history of analgesia. We turn backward one hundred and thirty-one years when Sir Humphrey Davy in 1800 discovered the anesthetic properties of nitrous oxide. We do not usually think of nitrous oxide as antedating ether and chloroform but such is the case. It was 1818 that Faraday showed that inhalation of ether vapor produced anesthetic effects as that of nitrous oxide. Crawford W. Long of Ga., in 1842 used ether to produce anesthesia during operations.

In 1847 Simpson first used ether to allay pains in childbirth. Flourens in March of 1847, announced the discovery of the anesthetic properties of chloroform, and in November of that year Sir James Y. Simpson read a paper entitled "Notice of the New Anesthetic Agent, as a substitute for Sulphuric Ether in surgery and mid-wifery."

Following this, nitrous oxide was littel used until about 1863, when Edmund Andrews suggested its use with oxygen. Following these discoveries we find little to attract the attention until 1903, when Steinbuchel of Gratz first used scopolamin and morphine for obstetric analgesia. Gauss published his first results in 1906, and later visited America when his "Damaerschlaf," or "Twilight Sleep" was so widely published in the magazines. On account of this wide publicity and bad results obtained in a certain number of cases morphine and scopolamin were not generally used by obstetricians, until about 1915 . The late John O. Polak and Ralph Beach reported before the Obstetrical and Gyencological Section of the A. M. A. in San Francisco their result in over four hundred (400) cases. We were using morphine and scopolamin in Memphis at that time with satisfactory results. From then until the present it has been satisfactorily used.

A few years ago Gwathmey suggested and compiled a formula for rectal analgesia in the first stage of labor, the mixture was ether, quinine, alcohol and sweet oil. This was satisfactory in a large number of cases but if not carefully used would irritate the rectum and if the patient has ever suffered previously of nausea from an ether anesthetic would again cause continuous, violent vomiting. Again if given too near delivery, the baby was affected.

About 1923 the French used somnifene "a preparation corresponding to our barbituric group," with excellent results.

In 1928 McCallum used Sodium Amytal intravenously as a general anesthetic in the human. Since then progress with analgesia, both in obstetrics and general surgery has been rapid. Barbiturates are all theoretically derived from urea and malveric acid, and it is this group with which I wish to speak to you.

A. M. Mendelhall of Indianapolis reported the first large group of cases in June, 1929. He gave the greater part intravenously. The results were satisfactory even though the work was experimental as to dose and effect. At this time Lilly placed sodium amytal on the market in glass ampoules. The powder dissolved in water could be given by vein, muscle or rectum.

During 1930 I used it both for analgesia in labor and also in early vomiting of pregnancy, not knowing what the effects were. I gave doses of various sizes from three to six grains by mouth or rectum and sometimes both. We soon found that this was not sufficient for relief of pain, so we augmented this with morphine and scopolamin and sometimes mag. sulph. We first began by giving three to six grains of sodium amytal when the cervix was four to five centimeters dilated. This was too late if the patient was in active labor, for she had already suffered unnecessarily and the drug did not give any relief without the morphine and scopolamin. We now give the sodium amytal as soon as labor is established. Six grains per rectum. If the patient is relieved she is allowed to coast along until the effects begin to wear off; when she is examined and if the cervix is not effaced morphine gr. 1-6 and scopolamin 1-200 is given by hypo. This will usually carry the patient to full dilatation. But if it does not three to six grains sodium amytal are given before the effects of the opiate entirely disappears. If the labor is a very long one we repeat the morphine gr. 1-6 in 25 per cent mag. sulph.

Some have complained of the extreme restlessness of the patients under sodium amytal, we have not had this, but if it should occur the morphine will relieve it. The barbiturates act centrally, both sensory and motor peripheral organs remain intact—amnesia is produced.

The patient will complain with each pain but if sufficient analgesia is obtained she can not recall having suffered at all. When the cervix is fully dilated the last analgesic is given namely, nitrous oxide and oxygen. This is given in the usual manner with which you are all familiar.

There have been no ill results, neither mother or baby have been in the least affected.

There are other barbituric preparations on the market, one of the best possibly is bernocton which is sodium secondary butyl beta-bronallyl barbituric acid," a complete synthetic barbiturate.

Bumm has used it extensively and in 1931 results of its use by Sloan's maternity was reported.

I am never a strong advocate of the intravenous use of drugs when results can be obtained otherwise. We have been much gratified to find so few retraction rings—formerly every third or fourth occiput posterior was accompanied by a retraction ring. We now have only one in twenty-five cases.

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*Read before the Memphis and Shelby County Medical Society March 1st, 1932.

From this study of 600 cases I believe we have a method of analgesia, satisfactory in every way. Will say, as I have on other occasions, that private patients are treated individually hence we do not have any set rule as to dosage or repeating of same, while large charity services are treated collectively, hence the results are often disappointing.

The Doctor's Story

Good folks ever will have their way;
Good folks ever for it must pay;
But we, who are here and everywhere,
The burden of their faults must bear.
We must shoulder others' shame,
Fight their follies and take the blame;
Purge the body and humor the mind,
Doctor the eyes when the soul is blind.
Build the column of health erect
On the quicksands of neglect;
Always shouldering others' shame,
Bearing their faults and taking the blame.

Deacon Rogers he came to me,
"Wife is agoin' to die," said he;
"Doctors great an' doctors small
Haven't improved her any at all.
Physic and blister, powders and pills
And nothing sure but the doctor's bills.
Twenty women with remedies new,
Bother my wife the whole day through,
Sweet as honey or bitter as gall,
Poor old woman she takes 'em all,
Sour or sweet, whate'er they choose,
Poor old woman, she daren't refuse.
So she pleases whoe'er may call,
And death is suited the best of all.
Physic and blister, powder and pill—
Bound to conquer and sure to kill!"

Mrs. Rogers lay in her bed,
Bandaged and blistered from foot to head.
Blistered and bandaged from head to toe
Mrs. Rogers was very low.
Bottle and saucer, spoon and cup,
On the table stood bravely up;
Physics of high and low degree;
Calomel, catnip, boneset tea;
Everything a body could bear,
Excepting light and water and air.

I opened the blinds; the day was bright,
And God gave Mrs. Rogers some light.
I opened the window, the day was fair
And God gave Mrs. Rogers some air.
Bottles and blisters, powders and pills,
Catnip, boneset, syrups and squills,
Drugs and medicines, high and low,
I threw them as far as I could throw
"What are you doing?" my patient cried.
"Frightening death," I coolly replied.

You are crazy!" a visitor said,
I flung a bottle at his head.
Deacon Rogers, he came to me.
"Wife is agettin' her health," said he.
"I really think she will worry through;
She scolds me just as she used to do.
All the people have probed and showed;
All the neighbors have had their word;
'Twere better to perish, some of 'em say,
Than be cured in such an irregular way."

"Your wife," said I, "had God's good care
And His remedies, light and water and air.
All of the doctors, beyond a doubt,
Couldn't have cured Mrs. Rogers without."
The deacon smiled and bowed his head.
"Then your bill is nothing," he said.
"God's be the glory, as you say!
God bless you, doctor! Good day! Good day!"
If I ever doctor that woman again,
I'll give her medicine made by men.

Dr. Willis Campbell Visits the Old Home Town

In the visit here of Dr. Willis Campbell, Mississippians were given the opportunity this week of extending welcome to a member of a distinguished Mississippi family who has earned high distinction in his own right in another state.

As one of the nation's foremost bone surgeons, Dr. Campbell, through his clinic at Memphis, has performed services of immeasurable value to afflicted little children of many states, some 2,000 or more from his native state alone having had their lives brightened by the mastery of his magic hand.

Mississippi has reason to be highly gratified with the new luster that Dr. Campbell has added to a name that already was written high on the scrolls of fame.

His distinguished grandfather, Judge J. A. P. Campbell is remembered as one of the ablest men who ever sat on a Mississippi bench, and as speaker of the house of representatives that gentleman left a record of being one of the greatest presiding officers the Mississippi lower house ever had.

An uncle, Robert Campbell, served in the legislature, and—but enough about the family.

While all of Mississippi loves Dr. Campbell as one of the southern states' greatest contributions to the fields of mercy and surgery, Jackson particularly pays him high devotion—the devotion of a city who knew his as a youngster, for it was here that Dr. Campbell was born and grew up, and it was from this city that he set forth, many years ago, to carve out a record that surprised even his staunchest friends.

At the capitol this week Dr. Campbell was highly honored by the presiding officer of the senate, Lt.-Governor Dennis Murphree, who paid him high tribute. Speaker Bailey, of the House, also gave to him recognition in fitting words.

Straightening and correcting the faulty limbs of children has been Dr. Campbell's life work.

Into it he has put a rare skill and the highest training. But back of his labor is something even more important—the great heart of a great man with a soul for mercy.—Jackson Daily News.

Case Report of a Pyovarian Cyst

BY WM. T. BLACK, M.D., F.A.C.S.
Memphis, Tenn.

Cystic tumors developing from the tubules of the epoophoron are the most frequent type of tumors occurring in the broad ligament. Pyovarian cysts develop from small tubules, whose embryology is the vestigial remains of the sexual portion of the Wolffian body. They are rarely of sufficient size to produce clinical symptoms. They are usually unilateral and single, but other tubules of the pyovarium may be enlarged and several cysts may be present. They usually grow within the folds of the broad ligament and may produce pressure symptoms, or they may become infected. However, the smaller cysts are usually symptomless. They may become pedunculated and at times become of sufficient size to be felt in the abdominal cavity and produce pressure symptoms, or they may become twisted upon their pedicle, producing symptoms of an acute abdomen. Hemorrhage and infection may occur.

Mayo Robinson reported a parovarian cyst weighing 105 pounds. Kummel and Nagel reported one weighing 42 pounds. Stacy, Gripes, Offutt and Moench in the North American Clinics reported in November, 1926, a cyst filling the abdominal cavity that was tapped on different occasions thinking it a case of ascites. The patient had two children during this enlargement. The case was later operated upon and was found to be a parovarian cyst. The fluid accompanying an uncomplicated or ovarian cyst is clear, and alkaline in reaction. These cysts usually have the tube adherent to the cyst wall and becomes very much elongated. The ovary may also become adherent to the cyst.

These tumors contain a good deal of connective tissue and muscle tissue in their thin wall and are lined by cylindrical epithelial cells. They belong to the non proliferating type of tumors. Probably their enlargement is due to an inflammatory condition, or some toxic substance in the blood stream. They are poorly supplied with blood. A Wolffian epithelioma developing from a degenerated parovarian cyst with a fistulous opening into the sigmoid was reported by Lafond and J. Menge. Other cases with fistulous openings have been reported and several cases of gangrenous parovarian cysts have also been reported.

The preoperative diagnosis as a rule cannot be made from an ovarian cyst and are discovered accidently during a celiotomy. While this type of tumor is seldom thought of as being dangerous to the patient, yet complications do occur and they should always be looked upon as being potentially dangerous.

The treatment is extirpation of the growth. If the cyst is in the broad ligament, the peritoneum should be cut through carefully and the cyst removed intact. if possible, always removing as much of the sac as possible and suturing the peritoneum over the cut.

CASE REPORT

Mrs. A. C., 32 years of age, white female, mother of one child, 2½ years of age. She was married two and a half years before becoming pregnant. Puberty occurred at the age of sixteen. She was complaining of oligomenorrhea, headache, backache, nervousness and dysparunia. Upon pelvic examination the labia was found gaping with bands of adhesions in the fornices of the vagina. There was a second degree laceration and a cervical tear in the right side extending up into the broad ligament. There was a mucopurulent discharge from the cervix. Bimanual examination revealed a fluctuating oval shaped tumor the size of a grapefruit on the left side, which was diagnosed as an ovarian cyst. After performing a tracheloplasty and perineosplasty, the abdomen was opened and a parovarian cyst was found about the size of a medium sized grapefruit, in the left side. All internal female generative organs were normal.

This cyst was attached by a pedicle and while probably not producing symptoms (unless the backache was due to pressure symptoms) was the type of tumor that could become twisted upon its pedicle with the possibility of serious consequences.

ROBIN HARRIS
Eye, Ear, Nose and Throat
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Group Hospitalization

The group hospitalization plan recently inaugurated by five nonprofit private hospitals of New Orleans is just beginning to attract widespread attention. The project was launched here some two months ago, and, since its fees are on an annual basis, at least a year will be required before any table of average will be availble for future guidance. The plan has many points to commend it, and thousands of households will wish that a similar scheme could be devised to apply to families, since the current undertaking is concerned only with employed groups of five or more persons.

The plan now in operation provides hospital benefit insurance paid for at from $9.25 to $12.25 annually per person, in monthly installments, and entitling the beneficiaries to 21 days' hospitalization, including bed, food, attendance and such medication as is on the institution's regular pharmacy list, but exclusive of doctors' fees. The rate is based upon an estimate of actual cost, and there are provisions to guard against abuses and to bar operation of the system in certain chronic or contagious diseases. The plan generally has the approval of the American Hospital Association and the American College of Surgeons.

Even in its group application, however, the plan probably will draw some criticism, especially in the first year of its operations. All persons who have been patrons of non-charity hospitals are familiar with the alarming number of incidentals that are likely to pile up even in what the layman would style a simple case. Special nurses, medicines, foods and treatments, anaesthetics, X-rays, surgical devices of varying sorts—many things that may be needful in what is always an emergency, appear to the person who is standing the expense to be outside the regular service provided by the hospital. One truth of the matter, of course, is that even an endowed hospital usually has a limited budget, and that in times of sickness we are seldom able to govern our efforts for the patient with the same intelligent judgment we would use in an ordinary business deal.

The group insurance undoubtedly is a big stride forward. Later should come family insurance and, perhaps, in the final evolution of the process, we shall revert to the ancient Chinese custom of paying the doctors to keep us well. There is no doubt that the five institutions undertaking the local experiment have done so from a high sense of humanitarianism, but the final proof of its value will rest largely upon the ability to conduct it with broad intelligence and due regard for all the human equations involved—Times-Picayune.

Medical Society Organized

We, the undersigned licensed resident physicians of Yalobusha County, Mississippi, met in Water Valley, Mississippi, on the 9th day of February, 1934, and proceeded to organize a County Medical Society which is part of the North Mississippi Medical Society and the Mississippi State Medical Association.

After organizing and electing Dr. Geo. A. Brown, president, and Dr. L. S. Brown, secretary of the society, we adopted the following schedule of fees for the indigent sick in Yalobusha County, which we believe conforms with the Mississippi State Medical Association and the executive committee of the State Board of Public Welfare, Jackson, and agree tc accept the minimum fee as agreed upon by the representatives of the Mississippi State Medical Association and the Executive Committee of the State Board of Public Welfare, which schedule is as follows:

Office Calls	$1.00
Bedside Calls (city) ,with 50 cents per mile additional	$1.50
Obstetrical Calls	$15.00
Major Operations	$25.00
Minor Operations	$5.00

The following named physicians were selected to act in the capacity of an advisory committee to represent the Yalobusha Medical Society and its members in any controversies that may arise between said members and the local relief workers: Dr. S. L. Cox, Water Valley, Miss., Dr. R. J. Criss, Coffeeville, Miss., and Dr. J. S. Donaldson, Oakland, Miss.

It is hereby requested to the various field workers that they shall not suggest any particular doctor to any patient but leave the matter solely with the patients themselves.

The society unanimously voted that the privilege license imposed on physicians should be abolished.

Signed:

DR. G. A. BROWN, Water Valley, Miss.
DR. L. S. BROWN, Water Valley, Miss.
DR. S. E. COOPER, Water Valley, Miss.
DR. S. L. COX, Water Valley, Miss.
DR. D. C. FRENCH, Water Valley, Miss.
DR. W. M. JACKSON, Water Valley, Miss.
DR. R. J. CRISS, Coffeeville, Miss.
DR. H. O. LEONARD, Coffeeville, Miss.
DR. C. H. SPEARMAN, Coffeevlile, Miss.
DR. J. S. DONALDSON, Oakland, Miss.
DR. H. P. SAYLES, Tillatoba, Miss.
DR. W. R. BEST, Scobey, Miss.

Vice-Presidents of Mid-South Post Graduate Medical Assembly of 1934

Reading from left to right: Dr. Carl R. Crutchfield, Nashville, Tenn.; Dr. C. M. Speck, New Albany, Miss.; Dr. Ira W. Ellis, Monette, Ark.

Dr. F. L. McGahey, of Calhoun City, the active and progressive president of last year, and who is now taking post graduate work in Tulane.

Dr. F. L. McGahey's Address

(President of the Northeast Mississippi Thirteen County Medical Society.)

Mr. Chairman and members of the Northeast Mississippi Thirteen County Medical Society: Permit me to express my sincere appreciation of the honor you conferred on me one year ago when you elected me to serve as your president for the year just closing. I appreciate the fact that this is the greatest honor that can be conferred on one of its members by the greatest medical society in our state, with the possible exception of our state association.

During my term of office it has been my greatest desire to do everything I could to further the interest of organized medicine. And I wish, at this time, to express my appreciation to each member of this society and especially to our efficient secretary, Dr. J. M. Acker, for your hearty cooperation and encouragement during the year. I only regret that we have not been able to secure a one hundred per cent membership in each of our thirteen counties. I am sure that you fully appreciate the fact that it is almost impossible for a country doctor to deliver an address or read a paper on an occasion of this kind that would be interesting, yet I am going to ask your indulgence for just a few minutes while I talk to about some of the problems that confront the physician.

Each year should open up at least a few new avenues of thought and action to every physician. Notwithstanding the alluring promises of statesmen, to bring about "better financial days" for the physician, as well as for everyone else, the thoughtful physician knows quite well that conditions will be such in the new year that credit must still be accorded his clientele. The country, generally, is very much like our seriously ill patients—recovery is slow and prolonged. But we, who are keenly interested in our own, as well as our country's welfare, should continue to be optimistic, and give aid to honest officeholders in their strenuous efforts to rehabilitate economic conditions. And, as we so often have assured our seriously ill patients that they were bound to recover, especially if they would do what we told them to do, we should continue to encourage our worried public officials by assuring them that prosperity may be just around the corner—and that good times surely will come—again.

The physician's next step should be toward the use of better, more effective and surer remedies for the relief of the sick. The physician who takes step after step in this direction surely will be rewarded, for the number of his clients is sure to increase. If we would give more careful attention to details, especially in making physical examinations, we would also see a steady increase in our clientele.

We are constantly reminded, especially by financially prosperous physicians and surgeons, that the practice of medicine "is not a business, but a noble profession, and idealistic one whose essence is to serve. Profit is not its objective." All of us will agree, most heartily, that the profession of medicine is noble and idealistic, but where has the real idealistic practitioner landed financially? Of course, one can be idealistic in medical service, but he should not sacrifice his future comfort and well being in life to become known simply as an idealistic medical practitioner. Often times the physician owes more to his own welfare than to that of his patient. Truly, the physician who thinks and serves unselfishly disregarding his own rights and demands for the necessities of life, as well as that of his patient, deserves an adequate remuneration for the services he gives that patient. The spirit of commendable sacrifice should be exercised in the hearts of patients as well as in the hearts of their physicians. A helpful servant is always worthy of his hire.

The next step should lead the physician to the well-filled shelves of his medical library, where he can consult not only authors of books on medicine and allied subjects, but all phases of literature as well. Here he should spend many thoughtful hours devoted to most careful study of the different diseases and problems with which he comes in contact during the busy hours of the day and night. This phase of his work should assume as nature of postgraduate study in all of its very necessary details.

The next step should lead the physician through the door of his county or district medical society. This organization should be the nuclei of united professional effort in the interest of a more honest, sincere and effective practice of medicine and also should be a useful center for the cultivation of a more sincere spirit of fraternalism. Sincerity in purpose, practiced faithfully and unselfishly are just as essential in the practice of medicine as in any other profession or vocation. I am of the opinion that every physician should identify himself with organized medicine by becoming an ACTIVE member of the local society where he resides. These local societies truly represent the ground floor or checkered pavement on which rests the entire super-structure of organized medicine. It is here that we meet and enjoy professional fellowship and exchange professional ideas for the advancement of medical knowledge which naturally promotes the interests of the profession at large. To my mind, the physician who is drifting along without affiliating himself with organized medicine, can well be compared to the hobo riding the rods—he is stealing a ride—and is sure for a fall.

The presician's next step should be in defense of the continuance of the present schedule of professional fees. The chief reason why fees should not be further reduced is because the service is worth the price charged under the present fee basis. Also there are fewer patients than formerly and less money derived from each. No doubt the present fee schedules must and will be defended by every physician who is sincerely practicing medicine in the interest of his profession as well as in the interest of his clients. The doctor must at least receive enough money to pay his necessary expenses. He should also be brought calmly to a full realization of the fact that it is much more difficult to practice medicine today than in former years. Patients too often expect their doctors to perform modern miracles nowadays and never seem to blame themselves for the slowness of their return to health. Patients often fail to realize that recovery from some serious sickness depends more on their following the explicit directions of their physician than on their visiting the physician. After the physician has made a thorough examination of his patient, making diagnosis if possible, decided on line of treatment he is going to use and given complete instructions to the nurse and patient, then treatment to a very large extent devolves on others and this is one problem that the laity should be made to thoroughly appreciate.

The next step should lead the physician into the realm of interesting and exhilarating social activities. He needs this very necessary diversion, for it will prove an additional stimulant to his daily life among the sick. Coming constantly in contact with the various ills of life tends to cause a mental condition of gloom and melancholy in the mind of the physician, whose life seems to be wholly devoted to the relief of suffering humanity. He needs to mingle with other people, especially with those who see and enjoy the happy phases of life. He needs to know what life really means outside the atmosphere of the sick room.

The next step should lead the physician back into the routine of daily practice. And, as he resumes his routine professional duties to his clients, he should remember and strictly apply the cheerful thoughts he gleaned from his association with the social leaders of his community, because knowing the social conditions tends to aid him in knowing the minds and temperaments of his patients. And finally he should desert the "Lad of foolish dreams and seemingly irresistible fancies" for at least a brief period, that he may dwell amidst the memories of notable victories he has won in his professional work, because this will tend to cheer his heart and strengthen his will to carry on.

The best is still ahead,
Get it before you're dead.
Life is full of blessings,
In spite of your wrestings.

Public Health News

Miss Aimee Wilcox, technician with the U. S. Public Health Service, Washington, D. C., was in Jackson during December and spent several days in the State Hygienic Laboratory.

Award of a scholarship by the commonwealth Fund of New York to Miss Kathleen Robuck, staff nurse of the Lauderdale County Health Department, has been announced. Miss Robuck will go to Vanderbilt for four months study.

Dr. B. E. Vowell of Carthage, Miss., has been notified that the Commonwealth Fund has awarded to him a four months fellowship for graduate study at Tulane University. On January 8, Dr. Vowell joined fifteen other Mississippi physicians who are on fellowship, studying at Tulane Graduate School of Medicine.

The State Hygienic Laboratory, during the Year 1933 examined 116,944 specimens, manufactured and distributed 665,950 cc's of typhoid vaccine, made 1,490 rabies treatments, and made for distribution to doctors and midwives 57,286 ampules of silver nitrate solution.

The manufacture of Alum Precipitated Toxoid which is given in one dose is a long step forward in the control of diphtheria, and the inconvenience and expense of giving three doses of toxin-antitoxin or two doses of toxoid is now eliminated.

Subjects Discussed

AT THE SIXTH ANNUAL GRADUATE FORTNIGHT OF THE NEW YORK ACADEMY OF MEDICINE ON "DISORDERS OF METABOLISM"

Dr. C. P. Rhoads (Rockefeller Institute) presented a valuable and technical paper on the diagnosis and treatment of unusual or difficult anemias, which might escape the attention of the unskilled clinician. He showed the necessity of the modern laboratory to determine the exact requirement and to supply the dietary or physiological needs in a particular case. Many of his cases required great patience in interpretation of physiological improvement and demanded skill in prescribing such treatments as Vitamine-B complex (F & G) or the customary liver preparations, with or without salts of iron. Dr. Rhoads spoke of his anemia cases as "deficiency diseases" and hence relates them to sprue, pellagra, and herpes.

Dr. T. T. Mackie (Fifth Avenue Hospital, New York) presented most remarkable cases and an extraordinary amount of clinical data bearing upon sprue, beriberi, and rickets. He spoke on these as "results of inadequate diets," but showed that such cases may be failures of food intake or results of restricted dietary, or failure to function normally in the gastro-intestinal tract. He mentioned the value of Vitamine-B in sprue, which harmonizes his clinical experiences with the successful treatment of pellagra with Vitamine-G by Goldberger.

Dr. M. K. Metcalf (Fifth Avenue Hospital) stated that epileptic children usually appear normally well, strong and fully active with the outstanding pathology that they are subject to occasional attacks of epilepsy. In discussing the ketogenic diets, he mentioned the laboratory data as the distinct guide to the progress of the diet and, upon recognition of the limited nature of the diet, he stressed the importance of adequate salts, proteins, and vitamines.

In the November 14, 1931, issue of the Journal of the American Medical Association, Dr. Russell M. Wilder says: "I should like to mention two cases of pellagra that developed in patients that were under a dietary treatment for epilepsy. In these two cases, the addition of brewers' yeast alone, without other alteration of the diet, promptly resulted in a cure. Since then, I have made a practice of including yeast in all my epileptic diets and thus far have not again encountered this complication."

Dr. Bradford Hill, speaking before the Royal Statistical Society in London on "Mortality from Whooping Cough," showed a greater incidence and mortality among females under one year of age than among male children.

Dr. Hill thinks that the relative importance of whooping cough as a cause of widespread sickness and death is perhaps still under-rated, and intensive efforts should be made to combat it.

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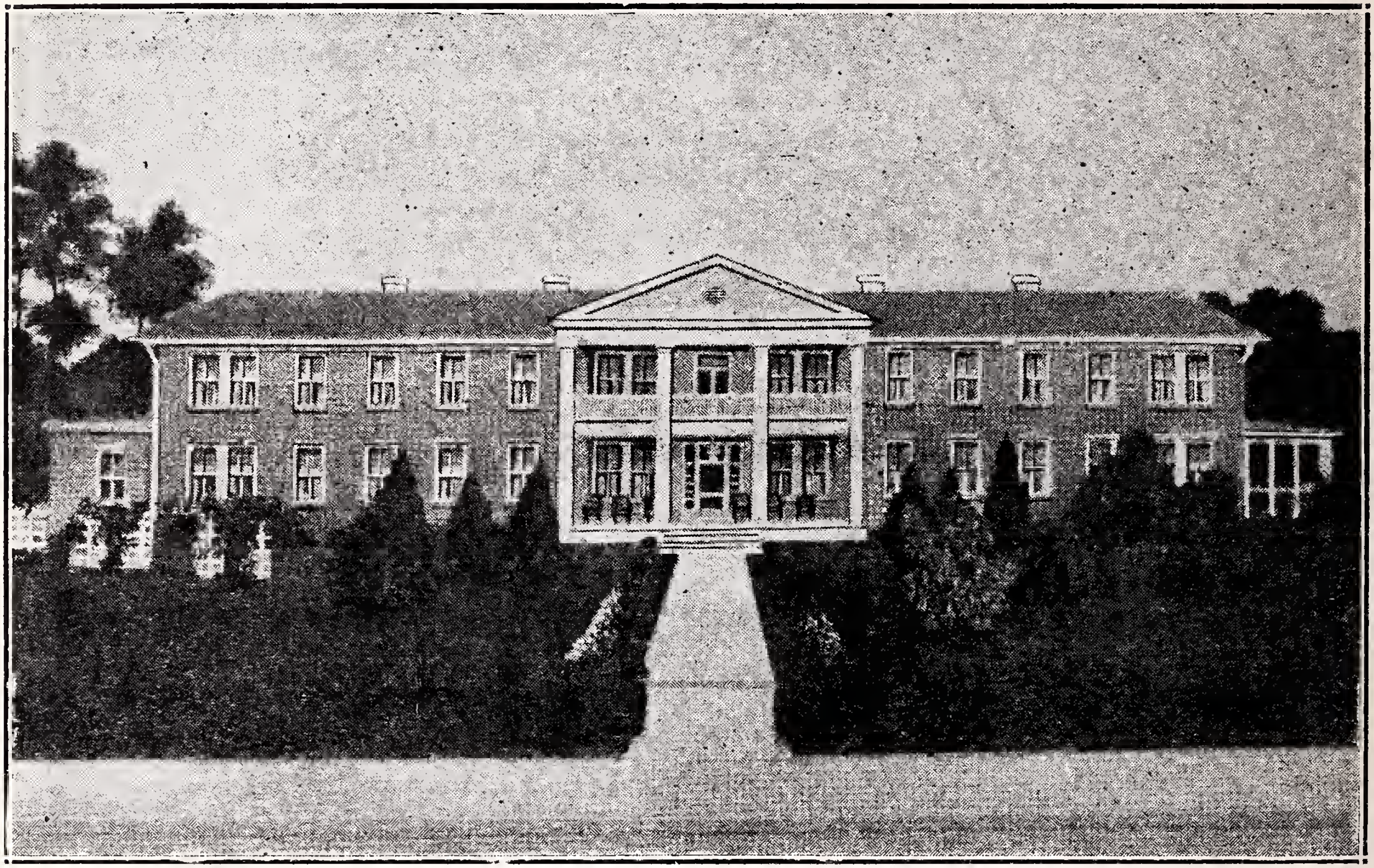

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BY THE LEVEL AND THE SQUARE

There's a time that's coming, brother
And we'll both of us be there;
When the Master, He will judge us,
By the level and the square.

His all-seeing eyes will read us,
And we fain would hide a part;
As we stand before His presence,
With a sinking of the heart.

And the questions He may ask us,
May bring forth a bitter tear;
As He speaks of some transaction,
To a brother Mason, here.

He may speak of some poor widow,
Whom you selfishly passed by;
Though you knew she was in trouble,
And you heard her children cry.

He may ask about that mortgage,
That you held when poor Tom died;
How you closed the same in winter time,
Though his poor widow cried.

You'll not even plead 'twas legal,
For the truth will face you there,
And the Master, He will judge you,
By the level and the square.

Yes we'll stand before His presence,
And it may be in despair!
For the Master He will judge us
By the level and the square.

—J. M. Hickets.

for sick as well as normal babies
Dextri-Maltose, Carbohydrate of Choice

In gastrointestinal disorders, "Dextri-maltose has been preferred to the other sugars as apparently less irritating."—*E. Cassie and U. Cox: The examination of the gastric contents in infants, with some considerations as to the value of lactic acid milk in infant feeding, Lancet, 2:322-325, August 14, 1926.*

"As to the kind of extra carbohydrate to be added, whether lactose or maltose, I believe dextri-maltose to be better in general in cases of fat indigestion (infantile atrophy)."—*C. H. Dunn: The Hygienic and Medical Treatment of Children, Southworth Co., Troy, New York, 1917, V. 1, p. 418.*

In the treatment of decomposition "The period of repair may be shortened by giving suitable additional food; the best, probably, being buttermilk to which carefully regulated proportions of dextrin and maltose preparations or malt soup are added."—*E. Feer: Text-Book of Pediatrics, J. B. Lippincott Co., Phila., 1922, p. 284.*

In infantile atrophy "The carbohydrate should be increased by gradual addition of dextrimaltose.

"Malt soup or dextrimaltose (Mead's) should be added in teaspoonful or more doses to each feeding until the point of carbohydrate tolerance is reached."—*L. Fischer: Diseases of Infancy and Childhood, F. A. Davis Co., Phila., 1925, V. 1, p. 285.*

In the case of a premature infant, "Dried milk with water was given, which later was changed to whole milk, 14 ounces; water, seven ounces, and dextri-maltose No. 1, one and one-half ounces. Seven feedings of three ounces each every three hours was given. The above feeding was retained. The infant gained eight ounces at the end of the first week."—*L. Fischer: Clinical notes in a series of premature infants, Arch. Pediat. 44:227-231, April, 1927.*

In the treatment of decomposition, "As a rule it is best to start with 2 to 2½ or 3 ounces of albumin milk to the pound weight in 24 hours; the sugar to be added is in the form of a maltose-dextrin mixture. One should never delay too long in adding this."—*C. G. Grulee: Infant Feeding, W. B. Saunders Co., Phila., 1922, p. 265.*

With reference to hypotrophy "In mild cases, the addition of dextrimaltose instead of cane or milk sugar may be sufficient to obtain a gain in weight."—*C. Herrman: The treatment of nutritional disorders in artificially-fed infants, New York M. J. 114:158-160, August, 1921.*

In athrepsia "The carbohydrates are usually added in a slowly fermentable form, such as the maltose and dextrin compounds, which are usually started by the addition of four grams per kilogram (1/15 ounce per pound) and increased until eight grams or more per kilogram (¼ ounce per pound) of body weight are added."—*J. H. Hess: Feeding and the Nutritional Disorders in Infancy and Childhood, F. A. Davis Co., Phila., 1928, p. 278.*

Concerning the treatment of marasmus "When the stools have become smooth and salve-like, carbohydrate, in the form of dextrimaltose, may be gradually added up to the limit of tolerance."—*L. W. Hill: Practical Infant Feeding, W. B. Saunders Co., Phila., 1922, p. 281.*

In the feeding of prematures, "As soon as there is a hesitation in the gain in weight, dextrimaltose No. 1 is substituted for the dextrose, in the same amount in the mixture, with almost invariably a gain in weight."—*F. B. Jacobs: Relation of irradiated food substances and ergosterol versus cod liver oil in childhood nutrition, Pennsylvania M. J. 35:164-167, Dec., 1931.*

"A spasmophilic baby on bottle feeding should receive a limited amount of milk—a pint, or at the most 24 ounces in the 24 hours—to which cereal gruel and some form of sugar is added, preferably one of the malt dextrin preparations; also the early addition of other foods than milk to the baby's diet."—*M. Jampolis: Infantile spasmophilia, Interstate M. J. 25:652, Sept., 1918; abst. Arch. Pediat. 35:691, Nov., 1918.*

In cases of malnutrition and indigestion, "The appetite improves rapidly, and the stools soon become normal in appearance, if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the preparation known as 'dextri-maltose,' for the extra carbohydrates; . . ."—*M. Ladd: Further experience with homogenized olive oil mixtures, Arch. Pediat., 33:501-512, July, 1916.*

In pyloric stenosis "With low dextrose tolerance, a maltose dextrin preparation may be added in whole or in part. Even where the dextrose is well tolerated and gain in weight has ceased, impetus to the weight ontake may be given by the addition of a maltose dextrin preparation."—*D. J. Levy: Pyloric stenosis and pylorospasm of infancy with especial reference to medical treatment, J. Michigan St. M. S., 21:166-170, April, 1922.*

With reference to the treatment of diarrhea, "After several days, 2% to 3% of a maltose-dextrin preparation may be added (Dextri-Maltose). This is preferable to the easily fermentable lactose or cane sugar."—*F. Lust: The Treatment of Children's Diseases, J. B. Lippincott Co., Phila., 1930, p. 145.*

In dyspepsia, "The carbohydrate must not be allowed to exceed 3 per cent. Dextri-maltose is the most suitable sugar."

In the treatment of decomposition (atrophy, malnutrition, marasmus), ". . . when there has been obvious improvement, dextri-maltose is gradually increased from 3 to 5 per cent."—*B. Myers: The nutritional disturbances of infancy, Brit. M. J., 1:1079-1083, June 21, 1924.*

"The treatment of artificially fed children in the first of these groups consists in putting them on a low fat dietary, and giving them carbohydrate in the form of one of the less fermentable sugars—e.g., dextrimaltose."—*L. G. Parsons: Wasting disorders of early infancy, Lancet, 1:687-694, April 5, 1924.*

In the milder cases of inanition "Regulation of this disturbed organismal balance is obtained by the addition of carbohydrates, while fat and casein are reduced. For this purpose dextrimaltose and flour are better than the ordinary sugars, since they are more slowly absorbed and have greater efficacy in their powers of controlling the flora in the large intestine."—*W. J. Pearson and W. G. Wyllie: Recent Advances in Diseases of Children, P. Blakiston's Son & Co., Phila., 1930, p. 116.*

In intestinal intoxication "I have had more experience with dried skimmed milk in which 2 to 5 per cent dextrimaltose, barley or rice flour has been cooked, and the mixture subsequently fermented by lactic acid bacilli or soured with lactic acid, than with any other food except protein milk."—*G. F. Powers: A comprehensive plan of treatment for the so-called intestinal intoxication of infants, Am. J. Dis. Child., 32:232-257, August, 1926.*

Regarding the treatment of the marantic infant "After the intolerance to sugar has been overcome a carbohydrate, preferably Dextri-maltose, may be added."—*C. S. Raue: Diseases of Children, Boericke & Tafel, Phila., 1922, p. 427.*

In spasmophilia, "Dextri maltose is the best sugar to use in these cases, in the proportion of 6 to 8 per cent."—*J. H. Reading, Jr.: Spasmophilia, Hahneman. Monthly, pp. 403-411, July, 1922.*

In the treatment of atrophy, "If the baby continues to improve, the next step in the treatment is to add to the milk one of the less fermentable carbohydrates, such as dextrimaltose; . . ."—*H. Thursfield and D. Paterson: Diseases of Children, William Wood & Co., 1929, p. 105.*

"I also find dextrin-maltose an excellent addition to albumin-milk when the first object of that food has been achieved and a gain in weight is desired. In this way I have succeeded in feeding albumin-milk far beyond the period usually advised, with highly gratifying results."—*F. L. Wachenheim: Infant-Feeding; Its Principles and Practice, Lea & Febiger, Phila., 1915, p. 158.*

"Dextri-maltose has been substituted for lactose not infrequently, when the tolerance for the latter continues low."—*J. H. West: Low fat, high starch evaporated milk feeding for the marasmic baby, Arch. Pediat. 48:189-193, March, 1931.*

"Malt sugar is indicated when others fail to produce a sufficient gain, or when malassimilation of fat is evident."—*O. H. Wilson: The role of carbohydrates in infant feeding, Southern M. J. 11:177, March, 1918; abst. Arch. Pediat. 35:447, July, 1918.*

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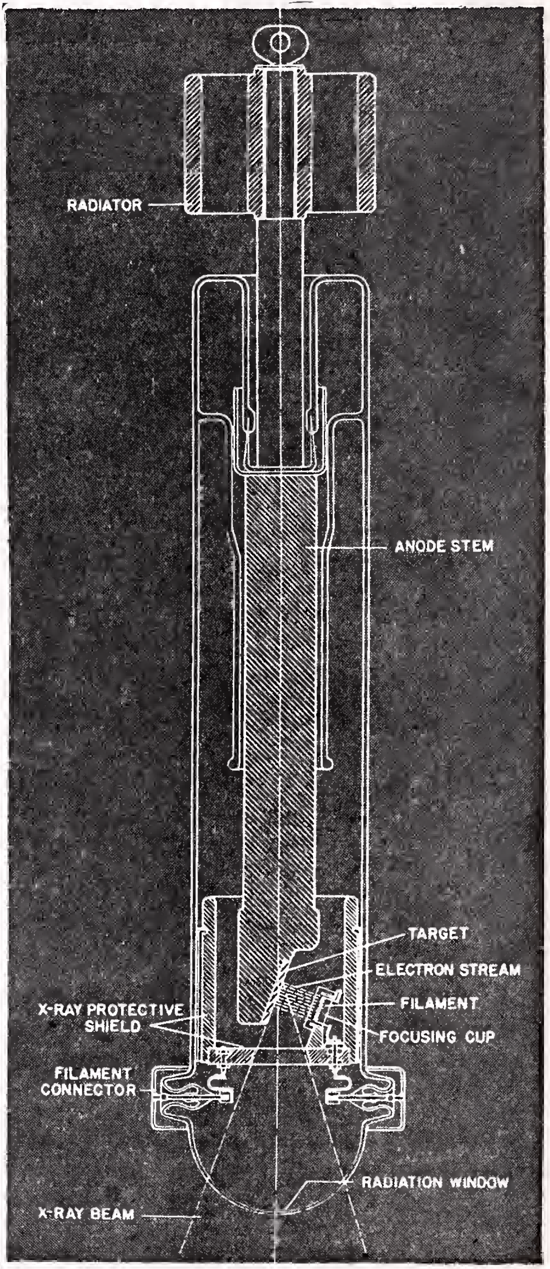

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Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

EDITORIALS

The March meeting of the North East Mississippi Medical Society held its first quarterly session in Pontotoc on March 20th. It was in the main a "cancer program." Dr. G. S. Bryan was in active charge and made the plans. He invited several distinguished guests. Drs. J. A. Crisler and Shields Abernathy of Memphis and W. A. Dearman of Gulfport were present and took an active part. Dr. Abernathy is one of the outstanding men of the south on radium and X-ray therapy, Dr. "Gus" Crisler is an outstanding surgeon of unlimited experience, broadly educated, an orator of the Haggard class and a human philosopher of the first water; Dr. Dearman of Gulfport is the Osler of Mississippi in internal medicine. You will read what they had to say with interest. Dr. Crisler discussed the opinions of the leading men of the profession collected by the Journal of Surgery, Gynecology and Obstetrics in his unique manner. Dr. Bryan introduced the subject with some pointed questions which were evidence of his extensive and systematic thought. These are the questions:

What is cancer? Is it a constitutional or a local malady? Is it constitutional with local manifestations? What is its histology, pathology and etiology? Has it an endocrine phase? What bio-chemical processes influence its appearance and progress, if any. what familiar traits, if any, are responsible for its development? Do spontaneous cures ever occur, if so, how may we know that any cure is due to our efforts? In fact, is cancer curable and if so, how long must we wait before announcing a cure?

At this meeting cancer was muchly talked about, like the weather we may not do any more about it. Miss Ruth Dalton, of Houston, spiced the program with a good paper about which something can really be done and has been.

The most enjoyable part of the program came with the entertainment. You will not find more cordial doctors than those of Pontotoc and Pontotoc County. They gave us the cordial handshake that was sincere. We had a wonderful banquet, delicious, bountiful and gracefully served. The "playlette" and songs interspersed evidenced the culture, taste and refinement of the Pontotoc folk. Judge Mitchell gave us a most cordial welcome. Mr. Dabney Anderson, sheriff, druggist, farmer, the Roosevelt of Pontotoc, was everything to every doctor to make his stay pleasant. Dr. Walker of Houlka was master of ceremonies. "Everything he does he does well." We are longing to return to Pontotoc.

This might be termed our "cancer issue" of The Mississsippi Doctor. We talk much about cancer. The cause is not known. We will in time do something about it. On an average man inherits half of his health and he acquires the other half. Every person inherits his tendency to disease, to some disease. It is doubtful if any man is naturally immune to any disease if you give him enough exposure. Cancer will likely be found to be partly constitutional. We may find a way to change the inner workings of any man so as to prevent the development of cancer, we may have to breed out, like developing a non-blight pear tree. Good hygiene is no doubt of much value. We can use it now.

Like the poor the problem of alcohol has always been with us. ALCOHOL, Its Effects on Man, by Haven Emerson, M.D., Professor of Public Health Practice, Columbia University, is most interesting, scientific and timely. He defines alcohol, discusses its absorption and elimination, and then the uses of alcohol by the body. He then outlines the effects of alcohol on the systems, brain, nerves, muscular tissues, digestion, circulatory system and body temperature. He also explains its effects on the special senses, on reproduction and resistance to disease. He discusses its use in medicine and its relation to tuberculosis, and to the length of human life. This is one book that every physician in the United States should read, re-read and study, for his own enlightment and for the good of his clientele. It is published by D. Appleton-Century Company, New York. The price is one dollar. Never before have you been offered so much scientific and reliable information for this amount of money.

The state hospital association will meet at Natchez on May 7th, the day before the state medical association. Make your arrangements to attend. Hospitalization is a most important problem for the medical profession. Better hospital service at less cost carried out to the commercial firing lines is the challenge. The middle class in the city need the service as well as those in the rural communities.

We are delighted to have the paper of Dr Douglas Quick of New York. He is the Peter of the Apostles, the foreman of the grand jury, on Cancer. The Mid-South Post Graduate Medical Assembly was more than delighted to have him on the program. We shall look forward to his return with much interest and anticipation.

Dr. W. A. Toomer, of Tupelo, ha sbeen appointed on the board of control of the eleven eleemosynary institutions of the state. This was a fine selection on the part of the governor.

Health insurance predisposes to bad feelings, but even so the man who keeps well must help to pay the bill for the poor, or near poor, man who gets sick. Don't forget this.

The man who is eternally talking medical ethics is the man who usually practices it the least.

Plenty of good papers are awaiting you in The Mississippi Doctor.

A new deal is on, a new economic area is in prospect, new precedents are being established in all lines of endeavor; yet general medicine continues to carry a load which is breaking its back and destroying its vitality, because the great middle class is unable under the present system to bear the burdens of adequate scientific medical service. The doctors above all, want to give to the patient and the community this service, unhampered by frills and present dogmas.

SICKNESS, PAIN and SUFFERING, will melt the hardest heart and break all opposing barriers, but medicine must be financed if it is to carry out the ideals of medicine, in giving scientific service to every sick person.

This service could be rendered if a State Medical Service Association was formed and put into effect.

The best plan according to my opinion, would be to organize the state into a medical service association with county and district societies, the prospective patient would form the membership and would pay a monthly fee. The district societies would elect a chairman and secretary from a local society unit, the fees collected from the membership would be placed in a sinking fund to be payed out by voucher approved by the membership of the local society and signed by chairman and secretary, upon presentation of bill signed by the attending physician and the patient or guardian. No contracts shall be made with any physician, the member in good standing being at liberty to call the doctor of his choice.

J. A. RAYBURN, M.D.
Pontotoc, Miss.

A minister had just finished a very earnest funeral sermon and asked if there was any one present who desired to see the remains.

An Irishman arose and said: "Yes, parson, I must see him. I thought I knew the man to be buried, but since I have listened to your sermon I am convinced we are about to bury the wrong man."

An excited father at the approaching birth of his first born excitedly, asked the physician: "Doctor, do you think I can possibly endure this new experience?"

The physician replied: "I think so, for though I have been present at the birth of several infants, I have so far never lost a father."

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Radiation and Surgery In Cancer of the Head and Neck*

DOUGLAS QUICK, M.B. (Tor.) F.A.C.S.
New York, N. Y.

It is the purpose of this communication to emphasize particularly two points: (1) That the combined use of radiation and operative surgery offers several advantages in the treatment of epidermoid carcinoma of the upper mucous membrane tract; (2) that the treatment of epidermoid carcinoma is steadily approaching a more reasonable, accurate and efficient basis.

At this stage in the development of radiation therapy it is but natural to expect that many conservative surgeons, and some skeptics, will have none of it. At the other end of the scale are the extreme radiation therapists, eager to cure all cancer by irradiation. However, it has never been considered the ideal or specific cure for all cancer. The surgical efforts toward relief of cancer have fallen short, yet they have not been futile by any means. It is unfortunate that more attention has not been directed toward combining the best from each method for the ultimate good of the cancer sufferer.

Histologic study of the relative degrees of cellular differentiation, or potential malignancy of tumor processes, has been most enlightening from the therapeutic standpoint. It shows very clearly the chief reason for surgical failure in many instances, and at the same time explains some of the most spectacular reactions to irradiation. The undifferentiated growth, highly malignant, prone to early and widespread dissemination through both lymphatics and blood stream, is obviously a poor surgical risk. On the other hand it is highly radiosensitive.

The fully differentiated tumor process is more orderly in its development. Metastasis occurs, as a rule, later in the course of the disease, and even then tends to remain within a limited area. In such cases it is but reasonable to expect relatively better results from operative measures. The more adult the growth the more radioresistant it becomes. The reaction to irradiation is not nearly so spectacular, and yet, if the process is controlled by this means, the assurance of permanency of the result is much greater.

The application of these observations on relative radiosensitivity, based on the degree of cellular differentiation of the tumor process, is of tremendous practical importance. It not only aids in determining the treatment method of choice, but, if that method be irradiation, it serves as a guide to the necessary intensity of dosage.

Work on the estimation of relative dosage intensities for different types of epidermoid carcinoma gives a practical basis for dosage estimations. It has been shown that adult-type epidermoid carcinoma requires from seven to ten skin erythema doses throughout the tumor-bearing area to produce complete and permanent control of growth. The anaplastic growths, on the other hand, responds completely to a dosage range of three, (or slightly under) to five or six skin erythemas, depending upon the relative degree of differentiation.

The dosage intensity judged necessary in a given case governs, in turn, the technical methods employed to provide that dosage. The most that can be delivered by external irradiation—radium, x-rays, or both—to the midline of the oral cavity, within a treatment interval of two to four weeks, and consistent with safety on the part of the patient, is three and a half to four skin erythema doses. External irradiation, therefore, is capable of causing complete regression of only the most radiosensitive growths. Growths showing any degree of cellular differentiation must have their irradiation intensity increased by some means, in addition to the maximum of external irradiation. Interstitial irradiation must be employed.

Epidermoid carcinoma lends itself more readily to histologic "grading" than some other types of malignant growth. The distinctions are more clear-cut and better defined. This, together with the fact that the initial dosage studies were carried out in the same group, places epidermoid-cancer therapy in the forefront, at least from the standpoint of accuracy.

The problem of epidermoid carcinoma, which was regarded a few years ago as very fully understood clinically and pathologically, and dependent for cure on improved technical operative measures, now stands in an entirely different light. The relative radiosensitivity is the guide to selection of the treatment procedures, as well as to the prognosis. Irradiation is assuming a degree of accuracy and exactness comparable to a nicely adjusted surgical procedure, rather than following on in the empiric channels of the radiation therapy of a few years ago. In short, the treatment of epidermoid carcinoma is not a matter of following a standard technical procedure adopted as a group problem. It is a special problem in each individual case, one following certain broad principles, but in detail guided by the steadily increasing fund of new information now coming to us.

A consideration of the treatment of oral, pharyngeal and laryngeal cancer must embrace two distinct, although not separate, problems: the primary growth, and the most usual paths of metastatic dissemination.

The strictly intraoral growths are usually adult type epidermoids, while the majority of pharyngeal and hypopharyngeal tumors show varying degrees of anaplasia. Hence, the latter respond favorably to irradiation of lesser intensity than to growths arising in the oral mucosa proper. Many, in fact, show complete regression from external irradiation alone.

In general, I favor treatment of the primary growth by irradiation, with surgery for certain specific indications. Secondary extensions to the neck are dealt with by a combination of surgery and irradiation.

For purposes of clarity, it would seem best to discuss separately the treatment of primary growth and of the metastatic extensions.

TREATMENT OF PRIMARY TUMOR

EXTERNAL IRRADIATION—In my opinion and experience, external irradiation at distance occupies the leading position and represents the first step in the treatment of every case of upper mucous membrane tract cancer that is at all acceptable for treatment. For many years remarkable results have been noted in occasional cases from external therapy (x-rays or radium). We now know the reason for this. It was not due to the intensity of the treatment; the growth was an undifferentiated, or anaplastic (Grade III or IV) tumor, and hence particularly radiosensitive. Such experiences, however, coupled with careful histologic studies of the tissues from such growths, have paved the way for the reasonably and progressively efficient external therapy of the past few years. With improved therapeutic equipment and the accumulated experience in histologic interpretation, plus reasonable accuracy in the calculation of tissue dosages, it is now possible to deliver an intelligent and effective dose from an external source of radiation.

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*Read before Mid-South Post Graduate Medical Assembly, Memphis, Tenn., Feb. 15, 1934)

A very few of the primary growths, from the group under consideration, may yield completely to this form of treatment alone. Usually, however, substantial but partial regression is all that is expected. This must not be interpreted in any sense as failure. It is a distinct gain. Knowledge of such limitation, however, is essential in order that too much will not be expected from this manner of irradiation. It indicates that initial improvement under this technical form of therapy may not be misinterpreted nor depended upon entirely. Such aid permits of finishing the treatment with interestitial irradiation of lesser intensity, with greater accuracy, greater safety and less danger of secondary necrosis of tissues.

When we compare this advance with the empiric and inefficient external therapy of even ten years ago, it indicates something of the possibilities which the future holds for external irradiation. The surface has scarcely been scratched. No single factor, in what is today regarded as an efficient modern therapy set-up, can be accepted as the ideal. We know from experience that clinical results have steadily improved with the administration of greater quantities of radiation of shorter wave-length. The timing, quantity, quality and periodicity of the individual exposures making up the total dose are far from settled.

The clinical effects are not entirely in keeping with physical laws. There comes a point beyond which clinical effects and biological reactions diverge from that which might be expected from physical calculations. Improvement in the radiation therapy of intraoral cancer lies chiefly in the gradual working of these various factors. External irradiation is coming all the while to occupy a more prominent position in this phase of the work.

X-radiation is the only practical source of this external radiation. Radium in sufficient quantity serves as an excellent experimental guide and stimulus toward improvement in x-ray therapy. Beyond this it is not feasible from an economic standpoint and its use for external irradiation, in the manner usually employed, is to be deplored. For adequate and efficient external irradiation with radium very large amounts of the element are necessary. Such equipment is to be regarded as a most necessary part of the equipment of a research cancer institute. From a practical clinical standpoint, however, a much greater benefit may be conferred upon the patients with whom we have to deal in our daily work through the investment of a portion of sucn large costs in up-to-date equipment for high voltage x-ray therapy. All too frequently the advantages of modern well-done x-ray therapy are overshadowed, or even overlooked, by a misplaced confidence in the other agent which is relatively scarce and infinitely more expensive.

SURFACE IRRADIATION—In the treatment of intraoral cancer, surface or contact applications of radium, no matter how heavily filtered, have no place. In a very few instances, and particularly with the lip, applications may be made to advantage with an intervening distance of one or two centimeters. Even in these there is an element of needless uncertainty which could be avoided by resort to interstitial therapy (radium implantation). The usual surface application is not sound from a physical standpoint. The ratio between undesirable surface effect and therapeutic effect at depth is such that a lethal tumor dose may mean gross permanent damage to the surface. Radium burn scars are unstable and painful. Blood supply to the surface epithelium is interfered with directly as well as by the fibrosis underlying the scar. Sensory nerve fibrils caught in the zone of fibrosis are extremenly hypersensitive. Reference is made particularly to these surface applications of radium within the mouth because there is frequently a tendency to attempt to treat the fully developed cancer within the mouth by such quantities of radium as may be available rather than by obtaining the radium in the proper form and quantity best adapted to the individual case. Small applicators designed for superficial skin therapy are frequently pressed into service within the mouth. Unfortunately, they do aid, particularly in the early case, toward surface healing. Growth, however, continues at depth and the error of such treatment is finally recognized, only when the case is out of hand through deep infiltration of growth even in the face of healed surface ulceration.

INTERSTITIAL IRRADIATION—A high percentage of primary growths, of the group under discussion, are dependent for completion of their therapy (after thorough external irradiation) upon interstitial implantation in some form. A good many oral growths are technically amenable to the implantation of needles containing either element or emanation, preferably the former. Some operators prefer them because of the extra filtration and avoidance of a permanent foreign body. Others, with a very limited radium supply, use them from necessity. Whatever the technical method of implantation, accuracy of placement, adequate intensity of dosage, and avoidance of undue trauma, are the important factors.

In the writer's experience, radon seeds (present filter—0.3 mm. gold) as permanent implants represent the most efficient means of interstitial irradiation. The unfiltered glass seeds used from 1916 to 1925 salvaged more cancer cases than any method of irradiation of that period even though at the expense of tremendous suffering, particularly from necrosis. Since Failla was able in 1925 to seal emanation in gold capillary tubes most of the objections to

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"seeds" have been overcome. Within proper, and at at the same time adequate, dosage limits, necrosis is rare. Improvement in external therapy has lessened the necessary intensity from implantation. Pain is less for these reasons as well as by virtue of the difference in quality of the radiation itself. The 0.3 mm. gold filter of the tube wall cuts out most of the softer gamma radiation and hence permits of using much greater quantity of more desirable quality of radiation, within the limits of tissue tolerance.

The wide technical range of adaptability of the gold seed appeals strongly when one is faced with the actual problem of treating the individual case. The technical flexibility of such a method permits of an accurate distribution not possible with the larger needles, in most instances. The ultimate foreign body problem has proved by experience to be theoretical rather than real. Trauma is infinitely less than with needles in place from one to several days. As for metal-jacketed removable glass radon seeds on a string, there is no comparison of their general efficiency with either of the previously mentioned methods. The gold seeds sacrifice something in filter, compared with the usual type of element needles, for their other advantages.

The gold seeds as permanent implants offer another advantage in that adjacent parts in the anterior portion of the mouth can be protected from unnecessary and damaging radiation. Dental appliances of vulcanite, with or without lead inlay, are not difficult to make to suit the needs of the individual case. They are a remarkable protection to adjacent normal mucosa and need only to be worn for a fortnight—the period of practical radon activity. Patients frequently cling to them longer because of the protection they afford from swollen tissues over-riding the teeth.

INFLUENCE OF TUMOR HISTOLOGY—In one sense the influence of histology on therapy is not as great within the mouth proper or laryngeal box as in growths of the nasopharynx or hypopharynx. The tonsillar group is the only exception, and as was pointed out, this group is anatomically borderline between mouth and pharynx. Relatively few of the intraoral growths are anaplastic. Grade III and IV tumors, except in the tonsil, are rare in this general group. However, radiosensitivity and grading are not exactly parallel. Grade II, or Grade I, epidermoid carcinomata may be relatively radiosensitive by reason of their blood-vascular apparatus even though the tumor cells are fully differentiated, or nearly so. An infected anaplastic tumor may be more radioresistant than a surgically clean Grade I growth. A fully differentiated growth in an otherwise normal tongue varies considerably in radiosensitivity from another fully differentiated growth in a luetic tongue, by reason of the fibrosis and altered capillary blood supply, the result of the luetic glossitis.

It is evident, therefore, that even within the narrow gradation limits of intraoral cancer, the histologic picture has a practical guiding influence on treatment intensity. Futhermore, it points out those growths more liable to widespread dissemination, a factor which will be referred to again in considering cervical metastases.

With the tonsillar group, the influence on therapeutic procedure goes much further. Many of the growths are anaplastic, and in these, external irradiation only is indicated. The secondary factors influencing the "radiosensitivity-grading" in contra-distinction to strictly "cellular grading" will decide whether moderate interstitial irradiation is called for in those growths arising previously in tonsillar epithelium. It is important to recognize the distinction between the cellular grade of a tumor and the probable degree of relative rediosensitivity of that particular tumor in the particular individual afflicted by it. In addition to the blood-vascular structure and the altering influences of sepsis, there are many other factors having important bearing.

The extent of the tumor alone with its anatomical relationships indicates a lessening of the practical radiosensitivity as the tumor becomes larger. The induration, with increasing fibrosis as time goes on, lessens the response to irradiation. The age of the patient must be considered. For the most part, a given tumor in a very elderly patient, provided he be in good general health, may show response superior to that which would be expected in a younger individual. The converse, however, is true of grave, constitutional disease, and particularly true in the presence of secondary anemia. Once a growth has progressed to the point of showing its constitutional effects in the form of secondary anemia, the response of even the most anaplastic tumor is decidedly lessened.

Caution should be exercised in deciding the anatomic origin of growths about the tonsillar pillar. The base of the anterior tonsillar pillar, on the lingual side, is a favorite site of origin for cancer. Growths arising in this location are prone to invade the tonsillar fossa yet they do not assume, in so doing, the radiosensitive characteristics of cancer arising in epithelium of the tonsil—the lympho-epithelium of Schmincke and Regaud. On the lateral border of the tongue, and immediately adjacent to the base of the anterior tonsillar pillar where it fans out in its lingual attachment, there is a patch of lymphoid tissue covered by this peculiar epithelium. It is a fairly common site of growth origin and is very close to the common tonsillar-pillar site. Furthermore, it is lateral-border-of-tongue cancer, and yet much more radiosensitive than the usual lateral border lingual epidermoid.

I am of the opinion that this particular location is a much more strategic point in the mouth cancer problem than we have heretofore recognized. We know that this general location is a favorite site of growth. A recent study of a group of lateral-border-of-tongue cases has impressed me with the fact that a larger number of cases than we formerly anticipated must have originated at this particular point. I say this because of the histology of the growths. Many of them are moderately anaplastic, or transitional-cell epidermoids, in histologic character. There is further confirmation in the fact that this particular patch of lymphoid tissue on the lateral border of the

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tongue and immediately adjacent to the base of the anterior tonsillar pillar freqently gives rise to simple yet very annoying symptoms. Many patients present themselves for examination on account of this fearing that they are developing, or have already developed, cancer. The area in question invariably shows chronic inflammatory changes, and low-grade infection harbored in such tissue means chronic irritation. Chronic irritation we recognize as one of the contributory factors in the development of mouth cancer. It is my opinion that this area of tissue, once it gives rise to such symptoms, should be destroyed in order that it may not go on to the ultimate development of cancer. With a high-frequency cautery and a small amount of novocain the procedure is very simple.

Biopsy and the microscope in the hands of an expert tumor pathologist are as essential and integral a part of irradiation therapy within the mouth as elsewhere. The value of histologic study of tissue in every case cannot be stressed too frequently. It is essential in the guidance of present-day therapy procedures. There are those who still raise objection to biopsy on theoretical grounds. If a small piece of tissue is taken carefully, the factor of trauma and possible tumor dissemination is negligible. If routine and frequent resort were made to these examinations there would be many earlier diagnoses and fewer errors in diagnosis.

ORAL HYGIENE—Within the past few years intraoral irradiation therapy has advanced from empiricism to a procedure of reasonable accuracy. The external irradiation is on the threshold of real efficiency. Tissue dosage by implantation can be estimated by physical means and this in turn is correlated and guided by histologic interpretation of the relative radiosensitivity. The technical facilities for implantation of radium are much improved. And yet, all of this work goes for naught, in a large percentage of cases, if proper attention is not given to the establishment of rigid oral hygiene measures prior to and concurrent with treatment. Rough, ragged, irregular and neglected teeth, as well as ill-fitting dentures, are a problem of cancer prevention. They may aggravate local conditions in the course of cancer treatment but their essential damage has already been done. The infection which they harbor and the chronic inflammatory changes in adjacent soft parts which they perpetuate, however, are a menace to successful cancer therapy, which cannot be overestimated.

It is scarcely within the scope of this paper to go into the care of precancerous lesions and the various contributory factors toward the development of mouth cancer. It may, however, be permissible to call attention to this phase of possible cancer prevention. We recognize chronic irritation as a distinct contributory factor in the development of cancer. At no place within the body have we such an excellent opportunity for the elimination of these contributory factors as in the mouth. It is an important and very serious problem, one calling for the combined efforts of the physician and the dentist.

The question of whether or not to extract offending teeth prior to the initiation of treatment, is frequently raised. It is one which must be settled on the status of the individual case. The complementary damage in causing the growth is past. The

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opening up of fresh tooth sockets, in the presence of both uncontrolled cancer and infection, is poor surgical practice, as well as dangerous from the standpoint of secondary invasion of bone by tumor implants. However, the mouth infection must be under control before success from irradiation can be anticipated; if radical exodontia is necessary to accomplish this, it should be resorted to at once.

Few cases of mouth cancer, even though early, can be successfully handled by any means in the presence of uncontrolled oral infection. The danger extends far beyond the local field within the mouth. Active mouth infection means a generalized cervical adenitis of varying degree. With the resistance of a lymph node lowered by infection it is readily conceivable that a tumor embolus is more liable to grow if implanted at that stage. Furthermore, a normal response to neck irradiation cannot be expected in the presence of such an adenitis.

If it is necessary to hospitalize the patient in order to manage the oral hygiene it should be done. Hospitalization, however, is not enough. Special equipment and specially trained, conscientious nurses are essential. Usually the situation can be handled in a well-equipped office, but it rarely can be done through the unaided efforts of the patient alone.

Irrigations at intervals of one or two hours with hot bicarbonate of soda, or hypertonic saline, are of inestimable value. The former solution is suitable in the presence of excessive, thick and tenacious mucus, but the latter is perferable if inflammatory swelling of the soft parts is to be dealt with. The quantity should be at least two quarts per irrigation. Free use of albolene following the irrigations will safeguard against irritation of the mucosa from frequent use of so much aqueous solution. Cleansing with sprays under pressure is essential and may well be alternated with the irrigations. Many alkaline solutions suitable for dissolving mucus are available. Peroxide of hydrogen is an effective oxidizing agent. Either peroxide or soap may be used for cleansing around teeth and over the dorsum of the tongue. Some of the non-irritating silver salts may be used to advantage to penetrate a fissured, ulcerating surface, which is heavily infected. Cocaine should never be used in the routine care of these cases. Butyn is sufficient and very satisfactory to carry over an extremely painful period. Bismuth (subcarbonate or subgallate) is of value for coating surfaces, as a deodorant, as well as for physical protection. A local cleansing treatment should always be finished by use of an oil spray or application. The normal mucus is altered in character, and though tenacious is scanty. The oil is needed for lubrication. This is not meant to be a formulary, but merely a group of suggestions to aid in making the technical and specific therapy successful. Cancer cannot be treated successfully in the presence of unbridled infection.

Another simple, yet important and frequently neglected, problem is the feeding of the patient during the active treatment period. The diet should be ample in calories and above the patient's normal caloric intake. It should be well-balanced and acceptable in consistency. Food and fluid intake should be forced to the limit. With the more extensive growths it is often difficult or impossible to meet these conditions during the acute phase of reaction to radiation. Furthermore, the local cleansing is complicated by a food intake rich in milk products. Under these circumstances a post-nasal-feeding tube is a blessing indeed to both patient and nurse. The food and caloric intake is then managed simply. Fruit juices may be given at will. Medication may be given through the same channel. Much pain is quite naturally obviated. Local infection is more easily handled. There is less fatigue and more rest for the patient.

In addition to the local and immediate problems attendant upon the mouth itself, we must not lose sight of the general medical condition of the patient. The average intraoral case is in the degenerative period of life. The cancer phase must not be allowed to entirely overshadow the chronic constitutional diseases which may be in the background. Above all, anemia must be avoided or corrected. Liver extract and iron find a large field in the general therapy of cancer.

SYPHILIS AS A COMPLICATING FACTOR—The problem of tertiary syphilis as a complication is met with frequently in dealing with cancer of the mouth. In differential diagnosis, the positive Wassermann or Kahn reaction is as much a curse to the cancer patient as it is a boon to the luetic. There is no reason why the two diseases may not actively co-exist;they frequently do. A biopsy avoids neglect of the cancer. In therapy rather too much importance is placed on an associated leukoplakia of demonstrable luetic origin. There is an exception to this. Cancer of the tongue arising in an area of leutic leukoplakia almost invariably has an underlying leutic glossitis in the tumor bed. Tongue muscle so altered does not react normally to irradiation, nor does it withstand heavy irradiation well. It is prone to break down and hence cautery removal, after irradiation, of any questionable area is indicated more freely and at an earlier date than in an otherwise normal tongue. Anti-leutic treatment, concurrent with irradiation, is not contraindicated as has often been suggested. It is a distinct advantage and a stimulant to healing. It should, however, be of moderate intensity and, in my opinion, limited to mercury and iodides. The patient's strength is heavily taxed by "anti-cancer" therapy and hence is not equal to the type of anti-luetic therapy which would meet with the full approval of the syphilologist. After the growth is under control the other treatment, if indicated, may be pushed more vigorously.

INDICATIONS FOR SURGERY WITHIN THE MOUTH—In my opinion, operative surgery has no place within the mouth for the direct treatment of cancer. Responsibility for control of growth should be vested in radiation. In order that irradiation may be technically facilitated, and for certain definite associated complications, operative measures are indicated. For these, the cautery methods are preferable where feasible. The high-frequency bipolar cautery affords greater adaptability than the older thermo-

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electric instruments.

(a) ACCESS TO TUMOR-BEARING AREA—Growths in certain locations, particularly in the maxillary antrum, are not sufficiently accessible to treat by implantation with any degree of accuracy. It is a simple matter to remove the anterior wall of the antrum, or anterior wall and adjacent alveolar process, if the bone is secondarily invaded. This not only provides direct access to the growth but affords drainage as well, and facilitates subsequent cleansing.

(b) DRAINAGE—An example for the need for drainage has just been given in the opening of the most dependent portion of the antrum. Such a defect is readily closed by a denture after healing has been completed. Direct and permanent access is necessary for proper observation of the questionable area. If infection has extended to such depth in tongue or floor mouth as to result in central abscesses, removal of as large a segment of the condemned tissue as possible by cautery is indicated, to provide drainage and subsequent local cleansing. If possible, implantation of radon should precede the partial removal of such a growth. It is safer from the stand point of tumor dissemination, but there is a still more important reason. Wherever an area of tumor tissue, condemned to removal, can be utilized as a radon holder it should be so taken advantage of. The time interval between the implantation and the subsequent cautery removal may be shortened if necessary (but not preferably) by the implantation of an "over-dose" of radon and then doing the removal at the time when sufficient of the radon has been used up. The surface of such a wound will show a normal radiation exudate, or surface reaction, some days later, and at the same time as it would have become manifest grossly had no cautery operation been interposed. Too much valuable time is lost by first operating on such an area and then implanting the remaining base of tumor tissue.

With certain of the extensive growths centered about the lower pole of tonsil, it is practically impossible to gain access to the pharynx and hypopharynx for cleansing and drainage of the inflammatory exudates. Cautery removal of the bulk of tumor tissue, after implantation, in such fashion that the trough of the floor of the mouth is extended backward into the hypopharynx, facilitates tremendously the handling of the surgical care. It affords free access and permits of space for all the necessary cleansing procedures and irrigations.

(c) INVASION OF BONE BY TUMOR—With the increasing efficiency of irradiation, it is possible to destroy epidermoid carcinoma which has secondarily invaded bone underlying the soft-part structures of the mouth. However, such control of growth is by no means sure, and furthermore, a serious surgical complication—osteomyelitis—remains to be cared for. A great deal of needless suffering, and a variable hazard of remaining tumor will be avoided if the bone is removed surgically, after the heavy combined external and interstitial irradiation is completed. In most instances the removal can be accomplished through the mouth rather than by the more disfiguring external operation. Final healing is much more prompt than if the bone is left to separate finally by sequestration.

(d) EXTENSIVE POST-RADIATION FIBROSIS AND SECONDARY NECROSIS—Even though it is possible to eradicate the growth within the mouth by irradiation, there are at times resulting scars which are hazardous or unsatisfactory. For instance, the radiation scar following successful treatment of carcinoma in a luetic tongue is much more liable to secondary necrosis, under the stimulus of some slight injury, than a similar scar in an otherwise normal tongue. For safety, it is much better to remove such a questionable area before necrosis occur.s The same is true where secondary breaking down is threatened or occurs under any circumstances. The procedure is not severe, the final scar is more flexible and contributes to a better ultimate result. With some very extensive growths, particularly in the anterior portion of the mouth, the scar following irradiation may be very dense. It may even result in undue deformity, especially if the tongue is involved. Here again revision of the scar by a limited cautery procedure leaves a more comfortable and at the same time better functional result.

TREATMENT OF THE CERVICAL LYMPH-NODES (METASTATIC OR UNINVOLVED)

This phase of the intraoral cancer problem is regarded differently in various circles. By those taking a strictly surgical view, neck dissection takes precedent in importance, and frequently in sequence, to treatment of the primary growth. It is not uncommon to see a patient, after an indifferent neck dissection, with an untreated primary growth of such extent that little hope can be offered by any therapy. On the other hand, many doing radiation therapy are apt to give all attention to treatment of the primary tumor and with but little consideration for the neck problem, until confronted by a sizeable metastatic node.

Recognition of the common avenues of dissemination is the least that can be expected of anyone assuming the responsibility for treatment of a case of mouth cancer. Whether the plan for meeting the problem be surgical or otherwise, at least a definite plan should be a part of the surgical therapeutic formula. The entire problem is too serious to be handled in a symptomatic manner.

An acquaintance with the natural history of the various growths within the mouth readily indicates the common paths of dissemination. Growths of the lip, tip of tongue, and extreme anterior floor of mouth usually metastasize to the submental and submaxillary group nodes of the same side as the primary tumor. Growths farther back extend to the upper deep-cervical group nodes. The node overlying and just posterior to the carotid bulb is involved by metastatic emboli at least three times as frequently as any other in the neck. A glance, however, at any one of the many excellent references on the distribution and inter-communication of cervical lymphatics will show how easily the "normal" manner of extension may vary. A metastatic embolus from any growth

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within the mouth is capable of extending to practically any lymph node within the neck. This may be kept in mind in planning to meet the individual problem.

DISSECTION EN BLOC—It was just this circumstance which was fully and keenly appreciated by Crile when he advanced the theory and outlined the method for a more radical extirpation of cervical lymphatics along with the removal of the primary growth. We must remember that this surgical advance was made prior to the era of radiation therapy. It represented an improvement in results even though the operative mortality was increased by the more extensive operation. Surgery was then the only recourse. Certain disadvantages were recognized then, others have come to light since. Yet, even those who do not adhere to the theory and practice of routine en bloc dissection must pay tribute to it as a major advance in the treatment of mouth cancer, for the period in which it was initiated. One of the sad facts attendant upon the procedure is that while many surgeons have talked in terms of the classic operation, few have actually practised it.

With radiation therapy coming to occupy a stronger and more practical position in the treatment of this group of diseases it is but reasonable to question the advisability of continuing with the classic neck operation as a routine procedure. The possibility of a greater service to a larger number of patients has been opened by modifying it.

Before going into the gradual trend of modification, the writer would like to point out some of the shortcomings of the routine en block dissection as applied to our present-day problems, but keeping in mind the fact that it was initiated before the radiation era.

One of the chief objections to routine neck dissection is that few of them in actual practice are more than local, or at best, incomplete operations. This is no fault of the classic method; however, it is an objection to the procedures which are cloaked under the guise of en bloc dissection.

When we look over the material coming to one doing a substantial amount of this work, we must be impressed by the high percentage of cases in which for one reason or another such an extensive operation is obviously not justifiable. The primary growth may be of such proportions that its control is very questionable and a radical neck procedure is not warranted. Secondary involvement of nodes may have extended beyond the node capsule or the metastatic process may be bilateral. When the disease has extended beyond the capsule of the node it is, with rare exceptions, beyond the scope of the most radical operation. The same is true of bilateral involvements even though the disease has not perforated the node capsules.

Age alone is not a contra-indication to radical surgery, but the chronic and constitutional degenerative changes attendant upon advanced age are usually such as to preclude it. At least the immediate risk is much increased. Certain of the constitutional diseases, notably syphilis, demand caution in deciding upon extensive surgery, even without the added factor of age.

The temperament of the patient, while not a serious factor in one sense, is nevertheless one which must be reckoned with. Some patients will discontinue treatment rather than submit to a hazardous and somewhat disfiguring operation when they can see no gross indication calling for it. There is no doubt but that many patients avoid medical counsel far too long because of the fear of extensive and, what they regard, as mutilating surgery.

Since our knowledge of tumor histology has been fortified by the studies in grading and relative radiosensitivity, we have another very definite contraindication to extirpation of the lymphatics in certain of the otherwise technically operable cases. The nodes of the anaplastic epidermoid carcinoma can be controlled, or destroyed completely, by external irradiation alone. The completely and partially undifferentiated growths follow a somewhat different course in their habits of dissemination. They certainly tend toward widespread distribution. Beyond this they tend to multiple metastases early in their course, in contra-distinction to the usual single node in the early stages of a fully differentiated epidermoid. In this respect they approach more nearly the habits of some of the glandular types of cancer, notably the breast, where tumor emboli would seem to be shot off like showers of sparks. For many years it has been accepted, without too careful verification, that intraoral cancer is practically limited, in its secondary extensions, to the neck. It has been estimated that the incidence of involvement below the clavicles is less than one per cent. This figure was arrived at before cancer was studied in quite the intensive manner as at present. The figure for distant metastases is undoubtedly much higher. Furthermore, it is evident that the undifferentiated tumors account largely for the distant involvements. Hence, their radiosensitivity and their trend toward widespread metastases puts them out of the class for radical neck surgery.

After we have taken account of all contra-indications and frank objections to en bloc dissection (and in the light of our present advantages of added histologic information and radiation therapy) it leaves but a small percentage, at best, of the rank and file of cases that might come under the heading of acceptability for the operation. To measure the cervical node problem, therefore, with a surgical yardstick alone—operate on the technically operable and relegate the remainder to whatever palliation therapy may be handy—is obviously unfair to the mass of material for which we are responsible in our daily work. Present-day needs demand a more comprehensive scheme which will embrace a larger percentage of the cases applying for treatment, and in the stage at which they apply. It is my opinion that present-day facilities afford a more comprehensive plan.

CONSERVATIVE TREATMENT OF CERVICAL LYMPHATICS—It is a pleasure indeed to give credit, for the plan to be outlined, to my former chief, the late Dr. H. H. Janeway.

The original premise was that the cervical lymph

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nodes, up to a certain point at least, performed a conservative function in the course of primary intraoral cancer. The well-established observation that metastasis of this type of growth was by tumor-cell embolus rather than permeation of lymphatics at once removed the practical necessity for extirpation of all tissues between primary growth and adjacent lymph nodes en masse along with the primary growth. It was observed that many growths did not metastasize even in the very advanced stages; some not until they became very advanced. Some of those that metastasized early and aggressively resulted in discouraging surgical dissection. As previously mentioned, we now know more about the majority making up this group. They were anaplastic tumors and prone to widespread dissemination rather than to localization in cervical lymph nodes alone.

Badly infected mouths were attended by earlier and more aggressive metastases. The results of dissection in these cases were even poorer in the group showing an associated gross inflammatory cervical adenitis. We know nothing of the number of tumor emboli which may constantly be discharged into the blood-stream or lymphatics. If into the blood-stream, they rarely survive so that here such dissemination is not a practical matter. It seems reasonable to assume that the lymph nodes must digest and reabsorb many tumor emboli and that only an occasional embolus gains foothold and grows within the node of lodgment. The observation of greater frequency of metastatic involvement in the presence of an inflammatory adenitis leads to the conclusion that tumor cells gain headway more readily in a lymph node of lowered local resistance. In fact, it is my opinion that a strictly normal cervical lymph node is capable of destroying regularly a tumor-cell embolus of epidermoid carcinoma, and that metastasis takes place only in a lymph node damaged by infection or otherwise lowered in resistance.

It was assumed, that if such be the case, it would be wiser to conserve the lymph nodes for their seeming appointed purpose and to enhance their normal function, in so far as possible, by reducing the mouth infection through vigorous cleansing measures.

Observations of the recurrences in palpably uninvolved necks following radical dissection, and the absence of demonstrable tumor in many necks, considered to be grossly involved, is not flattering to the theory of routine en bloc dissection. It was our belief that as satisfactory and successful an operation could be done after a node became palpable as before. Furthermore, the palpable node afforded a certain central guiding point so that unwitting trauma at operation might be avoided. Such a liberty with the accepted theory quite naturally presupposed a careful routine follow-up of all cases in order that node enlargement might be promptly detected.

Coupled with this view of the strictly surgical side was our 1916 hope, rather than our 1934 realization, of real assistance through radium and x-rays. In the early years of the work, such cases as facilities permitted were irradiated through the side of probable involvement by a radium emanation pack filtered by 2 mm. lead, or the equivalent, containing 2000 to 3000 millicuries of radon, and at distances of six to ten centimeters from the skin surface. The dose was the calculated "erythema" for the given distance—at that time erythema commanded an awesome respect. We know now of course, that this quantity of radiation had but little direct inhibitory effect on tumor growth. What the effect may have been on the prospective tumor-embolus bed, as represented by the lymph node, is open to conjecture. It is not at all certain that the "indirect" effect of irradiation is to be reckoned on the same basis of calculation as employed in determining dosage intensities for established cancer grossly invading a node. The intense plasma-cell infiltration of a normal lymph node after even moderate irradiation is strongly suggestive of pronounced strengthening of the efficiency of the node as a tumor-embolus "filter."

Our earlier dissections embraced all of these cases deemed technically operable and without regard for infiltration of node capsule or bilateral involvement. Histologic differentiation we did not recognize as of value. The palpably uninvolved necks we watched closely but refrained from dissection. We made no distinctions, in withholding dissections, between a papillary and and infiltrating type of growth, or between a low-rate metastasizing location such as the lip and a high-rate location such as the mucosa of the cheek. At that stage of the work (1916) that was undoubtedly an error.

Another error of that period was the lack of uniformity of our technical operation. Some were bilateral, some were limited to the submaxillary and upper deep-cervical nodes, others to the upper and lower deep-cervicals together with the posterior triangle. Some, and soon the majority, were complete, except for retention of the sternomastoid muscle. An effort was made to use radium within the wound in each instance, either filtered tubes in rubber or glass radon seeds. The sternomastoid was retained for a time as a "holder" for the seeds. It hampered the dissection, particularly that of the posterior triangle. Later the operation became a standard complete unilateral procedure. That is, all structures from the submental group of the opposite side to the posterior triangle and including submaxillary salivary gland, internal jugular vein and sternocleidomastoid muscle, were removed in one mass. Radon was buried at suspicious points, until with the advent of more efficient external irradiation technique, it has not been strictly routine during recent years. Local and conduction anesthesia has been a strong preference throughout. It obviates undue hurry, permits of co-operation on the part of the patient, calls for more delicate handling of tissue, and is attended by far less engorgement of vessels.

When gold filtered radon seeds (0.3 mm.) were available in 1925 the implantation problem was much improved and its scope widened. The experience of the previous years had gradually narrowed the anatomical limits of operations for extirpation of involved nodes. Observations on tumor grading and histologic studies in relative radiosensitivity limited the radical operation still further. More accurate cal-

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culation of tissue dosages, necessary for complete control of certain types of epidermoid carcinoma, encouraged implantation to a greater degree. The rapid advances in external irradiation therapy have still further encouraged the withdrawal of the radical operation in favor of the more conservative combined procedures.

The experience from 1916 to the present time may be classified to better advantage under the separate headings of factors of influence setting forth the present position of each.

NECK DISSECTION—It is my opinion that complete unilateral neck dissection occupies at present a definite yet very limited field in the care of intraoral, pharyngeal and laryngeal cancer. It should be reserved for those cases of fully differentiated epidermoid carcinoma, in patients in good general physical condition, with primary growths controlled, or giving substantial promise of control, and in which the metastatic nodes are unilateral, palpable, and present clinical evidence of an intact capsule.

Care should be taken to differentiate sharply, by clinical observation and examination, between inflammatory nodes, inflammatory areas in the submaxillary salivary gland simulating a node, and true metastatic nodes. Bilateral involvements and infiltration beyond the node capsule are distinct contra-indications to radical dissection. It is true that cases well for ten or more years may be shown (and can be shown by the writer) to refute this statement. One success, however, is no justification for several failures with any major surgical procedure, and particularly so where there is an alternative. One of the most depressing features of failure of radical dissection is that it usually leaves the patient worse off than had the operation not been done.

A review of the writer's material, however, indicates clearly that within the limits outlined, and with but one exception, dissection should be the most radical possible, if done at all. Follow-up on the incomplete operations indicates much poorer results than with the simple unilateral dissection.

Lip cancer represents, in my material from private and hospital practice, the one exception. In this group, and here only, dissection limited to both submental groups, the submaxillary and upper-deep cervical groups of the involved side, gave results equally as good as in those where the procedure was strictly complete.

INFLUENCE OF HISTOLOGY—In the neck, as in dealing with the primary growth, the histologic picture is the outstanding guide to procedure. Complete differentiation may indicate dissection, following the external irradiation, if the other indications for dissection are fulfilled. The wholly anaplastic tumor is one for external irradiation only. The intermediate histological picture contraindicates surgery but calls for implantation of radium following external therapy.

DOSAGE MEASUREMENTS—Calculations of dosages, particularly for implantation, and guided in intensity by the histologic picture, are of relatively greater value in the neck than in the mouth. Metastatic nodes tend to be spherical, or at most ovoid; hence, more compact for implantation. They are more accessible and their bulk can be estimated more accurately for total dose calculation. Experience, however, plays its usual part—the problem is not so much one of minimum tumor tolerance as it is one of the maximum amount that the surrounding normal structures will stand without permanent damage.

EXTERNAL IRRADIATION—What has already been said relative to external irradiation of the primary growths, obtains with equal force in the neck problem. In most instances, the primary growth external therapy includes the cervical drainage area as well. If not, irradiation of the two should be carried on concurrently. From a practical standpoint, x-radiation is preferable. Dosage should be divided in individual exposures, heavily filtered, employed in the highest voltages and greatest distances practical, and carried to the maximum of skin tolerance on a daily treatment basis. In determination of the exact maximum of filter, distance, individual exposure and frequency, lies our greatest problem of the present day.

If no nodes are palpable in the neck, the external irradiation is all that is indicated, except a careful and methodical clinical follow-up at frequent intervals. It is not possible to carry on this type of work with fairness to the patient without the most careful attention to the follow-up and periodic examination.

INTERSTITIAL IRRADIATION OF METASTATIC NODES—When we consider the narrow limits which we have placed on dissection it at once becomes apparent how diverse are the conditions in which implantation of radium must be employed. External irradiation can be depended upon only in the strictly anaplastic growths. It is true that many intraoral tumors clear up without metastases. The gradual lowering in percentage of cases developing nodes after admission (when admitted free from palpable nodes) is a tribute to the gradually increasing efficiency of external therapy, as a preventive measure. However, there are many metastatic node problems between the palpably uninvolved necks and those suitable for surgical dissection. Implantation should not be resorted to for interim or short-term palliation; this is a problem for external irradiation. Interstitial irradiation should aim at "cure" or long-time palliation.

Resort to the method of implantation, whether seeds or needles, presupposes, therefore, a substantial or complete control of the primary growth. With undifferentiated growths it is a method of election. There are many fully differentiated metastatic nodes, and with intact capsules, where for constitutional or certain local reasons, as previously indicated, interstitial irradiation is preferable to dissection. Nodes in which the disease has infiltrated beyond the capsule are again treated interstitially through choice. The same is true for bilateral nodes whether or not encapsulated.

It should be repeated that maximum external therapy should always precede implantation. Under all circumstances it is the first step in the treatment of both primary and secondary involvements. Implantation should practically never be carried out through skin puncture. If the disease is so extensive as to make surgical exposure unnecessary, it is at the same time too advanced to warrant interstitial irradiation. It is utterly impossible, except by accident, to make accurate distribution in the average metastatic cervical node through a skin puncture. The possibility of damage to vital structures is too great. A simple surgical exposure can be made with ease under local anesthesia. The dissection for exposure should be no more than is necessary. Needless dissection for exposure is meddlesome surgery; it interferes too sharply with surrounding blood supply. The greater the interference with surrounding blood supply the less satisfactory the local reaction to irradiation. Implantation may be combined with the exposure for ligation of the external carotid, or its branches, at times.

On exposure of a node for implantation it is usually advisable to aspirate to determine, and possibly relieve, the possibility of a liquefied centrally necrotic area. The trauma is slight, and the benefit, through avoidance of undue subsequent inflammatory reaction, is considerable. With extensive central liquefaction necrosis, it is even advisable to pack the cavity within the node for a few days with iodoform gauze to prevent reaccumulation of serum and until the interstitial irradiation begins to show gross effect.

If radon seeds are employed the wound may be closed tightly except for a small 48-hour drain. The writer does not favor removable needles for this work; the wound is traumatized in withdrawing them and is apt to be a serious deterrent to primary healing.

The size of the mass to be implanted is of some importance. Very large metastatic areas are unsuitable because of the amount of emanation necessary to afford growth control or a substantial degree of growth restraint. The smaller and more sharply defined the node the better chance for success by this method.

It is my opinion that narrowing of the limits for dissection and gradually increasing the scope of interstitial irradiaton of metastatic nodes, after full external therapy, has conferred a greater benefit on a larger number of patients than did the former plan of free resort to dissection without adequate selection of cases.

CONCLUSIONS

1. Treatment of epidermoid carcinoma of the upper mucous membrane tract is a problem for combined irradiation therapy, and surgery.
2. Primary anaplastic epidermoid carcinoma in these locations can be eradicated by external irradiation (x-ray therapy) alone, if properly and intensively administered.
3. Fully or partially differentiated intraoral growths call for some form of radium implantation following the external x-ray therapy.
4. Histologic interpretation of the type of growth, plus a keen insight into those additional factors which go to make the probable radiosensitivity appraisal, represents the guide to selection of radiation method or combination of radiation methods.
5. Surgery for the primary growth is indicated under certain specific circumstances, but as a secondary consideration and for indirect rather than direct eradication of the cancer.
6. Rigid oral hygiene measures are essential to the successful carrying through of any treatment of primary growths within the mouth and throat.
7. Routine en bloc dissection of the neck is not advocated.
8. A more conservative plan is endorsed for the care of the neck. This calls for an intimate combination and correlation of x-ray therapy, radium implantation and operative surgery.
9. Radical neck dissection is indicated in a very limited group of cases.
10. Surgical exposure and implantation of radon is steadily coming to occupy a larger field and wider scope of application in the treatment of metastatic cervical nodes of intraoral, pharyngeal and laryngeal origin.

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Delta Medical Societies Will Merge Next Month

Membership of Combined Clarksdale and Six Counties and Delta Medical Societies to be Around 250—Hold Meeting April 11 at Delta College

Merger of the Delta Medical Society with the Clarksdale and Six Counties Medical Society is expected to be effected at a meeting to be held in the Broom Memorial Auditorium of Delta State Teachers College in Cleveland on Wednesday, April 11.

The combine of the Clarksdale and Six Counties Association with the Delta Society to give one big medical society in the Delta, has been recommended by the committee appointed to investigate this matter and formal approval of the committee's report is expected to be acted upon at the Bolivar city assembly.

New officers of the combined society will be elected and plans are being made to entertain a crowd of 150. The Delta Society with its 110 members and Clarksdale and six counties association with 54 physicians as members will give the Delta one big society. Members of the Clarksdale society at the present time are Coahoma, Tallahatchie, Quitman and Tunica County physicians. The Delta society emgraces in its membership 110 of the 154 physicians in Bolivar, Washington, Sunflower, Leflore and Humphreys counties.

The present Delta society officers are Dr. R. C. Smith, Drew, president: and the following vice-presidents: J. D. Simmons, Gunnison, Bolivar; Dr. D. C. Montgomery, Greenville, Washington; Dr. B. H. Higdon, Sunflower City, Sunflower; Dr. J. W. Jackson, Belzoni ,Humphreys; Dr. A. M. Gill, Sidon, Leflore; and Dr. F. M. Acree, Greenville, secretary-treasurer.

The honor guest and chief speaker at the Cleveland meeting according to the program just arranged is Dr. Roy M. Balyeat, Oklahoma City, member of the American College of Physicians and other honorary medical fraternities and author of several books on migraine and other allergic conditions. He will deliver an address and will show lantern slides.—Greenville Democrat-Times.

Note: Since the above was put in type the proposed merger was successfully effected.

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SEMI-ANNUAL MEETING
OF THE

Delta Medical Society

WEDNESDAY, APRIL 11, 1934—2:00 p. m.
—at the—
BROOM MEMORIAL AUDITORIUM
Delta State Teachers College
CLEVELAND, MISS.

Meeting called to order at 2:00 p. m. Dr. R. C. Smith, President.

Invocation, Dr. I. D. Eavinson.

Address of Welcome, Mr. Joe P. McCain.

Response, Dr. G. Y. Gillespie.

Business Session.

Scientific Program

Prophylactic External Version, Dr. John Lucas, Greenville, Miss.

The Effect on the Human Body, of Changes in Barometric Pressure, Dr. H. B. Cattrell, Indianola.

The Bite of Lactodectur Mactous (T-Dot Spider), Dr. T. J. Barkley, Isola.

Report of Syphilitic Project conducted at Scott, Mississippi, Dr. I. I. Pogue, Scott.

Migraine, Dr. I. B. Bright, Greenwood.

Allergic Diseases; Diagnosis and Treatment, Dr. Ray Balyeat, Oklahoma City, Oklahoma.

Banquet, Legion Hut, 7:30 p. m.

Wassermann, Kahn, Kline, or What?

WILLIAM KRAUSS, M.D.
Meridian, Miss.

What does a doctor get when he receives a multiple serological report, and how is he to interpret it, for diagnosis or progress of treatment? I shall endeavor to set forth, in as simple language as possible, the fundamental principles underlying the serology of syphilis, stripped as far as possible of immunological language.

To begin with, the so-called Wassermann test is not the product of the ingenuity of August von Wassermann, Flexner did not develop Flexner's serum, the slide agglutination test is not a Widal reaction, Fraenkel's pneumoccus was discovered by our own Sternberg, the complete proof of the mosquito transmission of malaria was furnished by Grassi, our own McCallum added his own experiments with bird malaria but Ronald Ross received the Nobel Prize, etc.

The present-day complement fixation reaction is not a Wassermann test (Wa R) but it will always be known by that name. The original test was based on the complement fixation reaction of Bordet and Gengon (1901). Wassermann's assistants, first Citron and Jobling, later Neisser and Brueck, believed that they were dealing with a specific reaction in which a "syphilitic" antibody, combining with the spirochetes (specific antigen) present in the white livers of stillborn syphilitic infants bound "complement." Later the alcoholic extract, then the extract of any liver or not liver at all, in fact an alcoholic extract of any human or animal tissue was found to be a better "antigen."

This reaction of fixing complement is invisible and can be read only by means of an indicator system in which "complement" causes the solution of certain blood cells. If the preceding antigen-antibody reaction was positive then there will be no complement available and the cells remain intact. The presence of the antibody in the patient's serum is thus demonstrated. Of course, these reagents must be quantitatively adjusted with the greatest precision. In syphilitic serum we can demonstrate a true antibody reacting with a culture suspension or extract of spirochetes but the reaction is so feeble as to be worthless as a test. On the other hand, the syphilitic virus releases a lipotropic substance now called reagin, perhaps from the tissue of the patient, which combines with lipid present in the artificial antigen, producing a precipitate or flocculation. This reagin-lipid complex drags down added complement from the solution, thus simulating a true complement-fixation reaction. We have no side chains here.

The subsequent refinements of the test concerned themselves principally with the search for an organ extract which was highly sensitive for reagin but would not give ambiguous reactions with normal sera. One might write a book on "modifications" of antigen extract and the whole story has not yet been told. From crude alcoholic extract of tissues of guinea pigs sacrificed in getting blood for "complement," using in the order named: human, horse and beef heart, it was found that recently dehydrated beef heart was the most suitable for extraction. Three types of extract came into use, plain alcoholic, aceton-insoluble, ether-insoluble. Following the extensive studies of Neymann and Gager, it was found that dried heart tissue previously extracted with ether left a residue yielding an alcoholic extract giving a reaction in dilutions as high as 1:1000 without being hemolytic or anticomplementary. During the entire period of this development there has been much discussion concerning the use of "fortifier." Hans Sachs (1909) first proposed cholesterol to fortify his (perhaps the first) flocculation test. Other flocculation tests with bile salts (Porges and Meir) were in use but soon went into the discard. Fortifiers were held responsible for non-specific positive reactions. As has been abundantly proved, cholesterol up to 6% added to refined antigen does not enter into the reaction in any way except to accelerate or facilitate the union of reagin and antigen. Kolmer, using part of the ethereal extract in his antigen does not consider more than .2% cholesterol safe. Kline, using aceton-insoluble extract adds .22% cholesterol. Those preferring "aceton-insoluble" lipid report their Wa R in two ways, because it was felt that it could not be safely cholesterinized, hence the latter served for presumptive but unsafe positive reactions. In view of what has been said, the use of unfortified antigen is no longer justified if a refined product is used. The double antigen report only leads to confusion. Wherever water bath incubation is used the short time incubation is compensated for by using more antigen. This may throw the reaction out of the specific "zone," giving unexpected positive and negative reactions. Kahn has worked out this problem in the development of his very complicated method of "correcting" antigen. Both Kahn and Eagle find .6% cholesterol perfectly safe with their antigens.

So far as the Wa R. is concerned we still have to consider vagaries due to the patient's serum, the guienea pig serum, hemolysin (from the rabbit) and the very great variation in the resistance of sheep cells. The reactions will run true to form when using the blood of the same sheep. The upset comes when a new sheep is bled.

The patient's serum should come from "fasting" blood. Chyle, bile, ether, and certain drugs are anticomplementary. Blood from patients with active tuberculosis and leprosy may turn out positive. Alcohol does not cause false negative except after a prolonged debauch. Malaria does not interfere.

From what we have said it is clear that all Wa R are not one and the same thing; in fact they may be any weird combination of "systems" that small-laboratory technicians manage to cook up.

Just after most large laboratories had settled to two principal systems, i, c. the double antigen system of public health laboratories with water bath incubation and the Kolmer fifteen hour refrigerator incubation, preferred in hospital and school laboratories, the serological service of the Medical Division of Johns Hopkins hospital comes forward with a new "cornsterol fortified" antigen. The most carefully titrated Wa R in the hands of experts will give from 50 to 60 per cent positive reactions with the sera of known syphilitics with a possible error of plus-minus 1%. In latent and tertiary syphilis the batting average is very low indeed. The Johns Hopkins technic (Eagle) is said to be practically 100% specific (error plus-minus .25%) and gives as high as 73 per cent positive reactions with sera of known syphilitics.

It has been stated in the beginning of this article that the union of reagin and "antigen" resulted in a flocculent precipitate. In the Wa R. on account of the higher dilution this is not perceptible and the use of an indicator system had to be used in which the failure to dissolve sheep (or human) cells evidenced a positive reaction. It was known long ago that if the antigen is added directly to the serum in low dilution the flocculation was perceptible to the naked eye. It is evident, therefore, that there is no difference in principle between the Wa R and a flocculation test.

Then why all this troublesome round about technic with guinea pig, rabbit and sheep blood, the bother of immunizing a rabbit against human or sheep cells, when only two things are essential in the reaction? In the flocculation reaction we are dealing with a precipitate produced when antigen and saline are mixed without further dilution. Not only for each antigen (about 20) but for each batch of antigen extract there is an optimum lability of the precipitate so that the coarse "snow" which has been precipitated is redispersed when mixed with serum. It may be said that the precipitate enters into colloid suspension in normal serum but if reagin is present it coats the imperceptible particles of antigen so that the two form clumps which constitute a positive reaction. It has taken an army of experimenters fifteen years to work out the optimum suspension which definitely divides positive from negative reactions. This has been pointed out when referring to Kahn's method of correcting antigen. The multiplicity of flocculation tests is evidence that there are still sources of error, largest of which is the personal equation and experience of the operator.

The attempt to boost the percentage of positive reactions is responsible for the multiplicity of modifications of both Wa R and flocculation tests and the confusion incident thereto. If the reaction is adjusted too sensitive we get false positives. The various "presumptive" tests represent an attempt to "exclude" syphilis. They only lead to confusion, as I shall show in the subjoined table, because there **is not** and most likely **never will be a test for absence of syphilis.** However, these presumptive tests are assumed to have value for checking result of treatment. In other words when there is no history of syphilis and none of the other antigens give a positive reaction, the positive presumptive test is disregarded. In the opposite case we have an excuse for continuing the treatment, which makes this double standard rather popular with the doctor.

If you get a report Wa R. negative, Kahn doubtful, Kline positive, Eagle in between, Meinicke, Muller, Hinton and others partly positive, or negative, does it not remind you of a bunch of "stews" trying to take each other home?

About ten years ago the Michigan State Laboratory on ground of perhaps half a million comparative tests has definitely discarded the Wa R. for the Kahn test and up to now has seen no need for adding a corroborative test. Dr. Kahn had nothing to do with this decision. Soon after this the U. S. Navy followed suit. The Army uses it in connection with the Craig technic of the Wa R. The four Tennessee State Laboratories, after I had swung into line, using Kahns exclusively, took a step backwards, ran perhaps four to six hundred thousand tests in triplicate: Wa R (water bath), Kahn and Kline. In an attempt to put a check on so many letters from puzzled doctors they issued a four page mimeographed letter attempting to explain the discrepancies. The last time I heard from them they were reporting only Kahns.

The Kahn is the only flocculation test recognized by the conference of Serology of the Health Section of the League of Nations. It would seem that that would close the discussion. The Kahn test requires scrupulous accuracy and much experience. The homemade Kahn may be worthless and the correct adjustment of saline-antigen uses up a lot of reagent. In view of the further fact that special equipment and much experience is necessary the "Small-time" laboratory is hardly prepared to deliver the goods. Furthermore, the least quantity one can make up would run 30 tests but it is good only for twenty minutes.

At this point, let us consider the Johns Hopkins or Eagle flocculation test.

A series of articles in the Journal of Experimental Medicine, the Journal of Laboratory and Clinical Medicine and other publications set forth in detail the experimental work upon which Eagle built his Wa R. and flocculation test.

I think the latter is the most suitable test for the small laboratory. The antigen can be bought, the trade package giving specific directions for setting up the test. No delicate adjustment of the antigen-saline is required but the directions must be strictly adhered to. The suspension is good for several days. The beginner should work with known positives and negatives only, especially weak positives.

The Kline test is valuable for quickly testing out blood donors, as only negative reactions have to be considered. I have tried most of the later flocculation, Ballungs, Klarungs, Trubungs, etc., reactions and my experience is very much in line with the finding of Mugrage "Comparative results with six flocculation and two complement fixation tests."

The following is an abridged table of tests on 1000 Sera 158 of which gave a positive history.

	Order of Sensitivity	No. of false positives
Kline	1	19
Meinicke	2	3
Hinton	3	1
Eagle	4	1
Muller	5	29
Kahn	6	3
Kolmer guant	7	1
Wa R (?)	8	1

"Among the flocculation tests the Eagle technic stands out for its relative simplicity, specificity and ease of reading."

I am also very favorably impressed with the Eagle Wa R. The technique is simple and the principle is good. With his greatly fortified antigen, only four hours refrigerator incubation is required.

It is established that all flocculation tests are more sensitive than the Wa R. and persist "positive" longer during treatment, hence in cases under treatment some flocculation test should always be done. In such cases the Wa R. is quite unnecessary.

SPINAL FLUIDS

What has been said above applies in reverse order to spinal fluids. A perfectly controlled Wa R. is far superior to any known flocculation test. We are dealing with very dilute solutions of reagin and the methods proposed for concentrating it do not bring the tests up to the delicacy of the Wa R., **especially** in treatment cases.

Treatment causes a rapid fall in positivity when the Wa R. may still give a high percentage of positive reactions. This is denied by some but many reports from serologists who have no method to defend agree with the above statement. It checks entirely with my own rather large experience with spinal fluids. Meinicke now comes forward with a new antigen suitable for spinals but gives no table of comparison with the Wa R.

What is the practical significance of the difference between a two plus, 3 plus and 4 plus reaction? Not as much as one would think. A 4 plus indicates a full unit of reagin **or any multiple thereof,** hence the difference between a 2 plus and 4 plus is slight in so far as expressing quantity of reagin is concerned. Reactions below 2 plus should be reported "doubtful." Reporting plus-minuses, one plus, one and a half plus on a 2 tube test is refinement not justified within the limits of the sensitivity of the test. Where quantitative results are indicated as in persistently positive sera I would recommend the quantitative Kolmer or Kahn. A fall of 2 plus in a 2 tube test has little value. Anyone can test this out by setting up 10 tubes of the same weak positive serum. There will be several degrees of positivity in the different tubes.

CONCLUSION

The physician receiving a report: Wa R. . . .; flocculation, . . .; is entitled to know what kind of Wa R. and flocculation was employed. If a case is under treatment, I prefer either Kahn or Eagle. The Wa R. is not sensitive enough. Spinals, of course, just the reverse. Serologists with little experience or practice, which amounts to the same thing should use a good Wa R. and a good flocculation for mutual check.

Personally I would use the Wa R. only so as to have the reagents handy for spinals. I would never use the double antigen—water bath method.

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Appendicitis From A Pediatrician's Viewpoint*

DR. KINSEY M. BUCK
Memphis, Tenn.

While a great majority of the laity believe that appendicitis is strictly an adult disease this is not true. Appendicitis is a very common disease in childhood, and if not recognized can lead to disastrous results to both the doctor in charge of the case and to the patient. An early diagnosis is of much more importance in children because the possibility of an early rupture is more imminent.

The most common age of appendicitis in children in my practice has been between the eighth and twelfth year. My youngest case was eighteen months. In the older children it is sometimes easy to make a correct diagnosis of appendicitis, but in the child under five it is much more difficult. The abdominal examination in these younger children is so often very unsatisfactory, and quite a few will not even let you examine their abdomen without crying and kicking and making it as unpleasant as possible for you. Sometimes the only reason that makes us suspect abdominal pain is a marked restlessness with frequent crying and inability to sleep. It is in these cases that a very careful history will be of great assistance.

Just a few weeks ago I made a diagnosis of acute appendicitis in a boy four years of age without getting anywhere near his abdomen. There was a typical history of an appendicitis onset, and there was no doubt in my mind that he was having acute abdominal pains. He kept his right thigh constantly flexed and cried when his mother tried to sit him up or move him. He became acutely ill at 10 o'clock at night and I saw him about 8 o'clock the next morning. He was operated on an hour later. The appendix had already ruptured. Fortunately he made a nice recovery.

In children suffering from abdominal pain a careful history should be obtained as to previous attacks and one should go into detail regarding the duration and onset of the present illness. Some men place a great deal of importance on the sequence of the symptoms, but in children they may not come in such uniform order as in the adult.

A slow, painstaking examination of the abdomen is necessary. A little time spent in gaining the child's confidence and allaying his fears will more than repay you. The difference between a successful examination and an unsuccessful one at this time may mean the difference between life and death. It has been aptly said "that a doctor making such an examination should have both a warm hand and a warm heart."

Personally I think that the responsibility of correctly diagnosing a case of acute appendicitis both in children and in adults is one of the greatest we have to face. A miss or delay will so often mean peritonitis with its sequelae. It has always been my custom when I have convinced myself that I am dealing with an acute appendix to ask for consultation, preferably a surgeon mutually agreed upon. However, if I am not yet convinced and the appendix cannot be absolutely eliminated, I much prefer to call in a good internist also.

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*Read before the Clarksdale and Six Counties Medical Society, March 28, 1934.

Sometimes we strike a stone-wall by one or both parents strenously objecting to any surgical procedure whatever. I recall such an occurrence in my youngest patient, a boy of 18 months. I saw this patient at 7 o'clock in the morning, and there was no doubt in my mind that he had a "red-hot" appendix. Following my custom I asked for consultation. A certain well known surgeon was called and he came right out. (Without his breakfast.) He agreed with me in every detail but the parents balked and requested further consultation. An internist was then called. We all three agreed that the boy was suffering from an attack of acute appendicitis, and that the appendix should be removed at once. The parents were the kind that thought they knew more than we did and absolutely refused operation. I told them that an operation was the only treatment and that I did not care to take the responsibility otherwise. There was nothing left for us to do but withdraw from the case. At 7:00 p. m. the father called me and said, "that they were ready to have the boy operated on." When I reached the hospital the child was in the receiving ward walking around while the father was giving his name, etc. The boy was operated on a half-hour later. The appendix was ruptured and the abdomen full of pus.

When a child has acute appendicitis it is a poor time to "dil and dally." I feel the same about appendicitis as I do about diphtheria. If I see a child has diphtheria, and the parents refuse to allow me to give antitoxin I quit the case. (They should have gotten a chiropractor in the first place.)

Children are not as prone to chronic appendicitis as adults, but Allan Brown says chronic appendicitis is much more common in children than ordinarily thought. If continued poor health, loss of appetite, frequent spells of indigestion, sick stomach and failure to gain weight can be laid at the door of the appendix, it should be removed. I think any surgeon will agree with me there. (During the depression anyway.)

ETIOLOGY

Little is yet definitely known regarding the immediate course of an attack of appendicitis. Age, sex, food condition of the digestive organs have some influence. It often follows typhoid fever, influenza, scarlet fever, erysipelas, tonsillitis or pneumonia. There are cases that have followed a strain from athletic performance and the like.

The early theory that appendicitis is frequently caused by a foreign body has been largely abandoned, although there is no doubt that foreign bodies are frequently found in the appendix. Their relation to appendical inflammation however is uncertain, but at that they may be said in some cases to be the exciting cause.

Diet indiscretion might be mentioned as a causative factor in children. Its importance, however, has been greatly overrated.

Suzuki and Rheindorf have reported cases in which oxyuris vermicularies or pin worms have been found in the appendix. Quite a great deal has been written and said in recent literature about pin worms as the cause of appendicitis.

Rosenow's experimental work would indicate that in the absence of foreign bodies that appendicitis is hematogenous in origin. That it is secondary to some distant focus, especially when the organisms in the focus have acquired an elective affinity for the appendix and gained entrance with the circulation. Diseased tonsils and carious teeth might be mentioned as possible "foci."

As Morris Richardson remarks, "the worst thing that can get into the appendix is a bacterium." The bacteria most frequently found in abscesses from appendicitis are the streptococci and the colon bacilli. An appendix that has become once inflamed is more prone to become again attacked. Appendicitis occurs more often in boys than in girls. It occurs often in the same family.

PATHOLOGY

I am not going into pathology in detail. We might divide appendicitis into acute and chronic. The three forms catarrhal, suppurative and gangrenous, are seen in children as in adults.

General peritonitis is a much more common sequence in children than in adults. This may be due to the relation of the appendix to the omentum making a walled off process and the circumscribing abscess difficult. Another reason is that the walls of the appendix in the young are much thinner and rupture takes place more quickly.

SYMPTOMS

In children, especially those under five years of age the disease is apt to have an irregular onset and to run an insidious course. This together with the unsatisfactory examination in the very young will make the diagnosis very difficult.

Fortunately for me most of my cases have been those with a sudden onset. The first symptom being one of general abdominal pain. This pain is usually crampy or colicky, and recurring at short intervals. The pain is usually so severe that the child stops playing and complains to his mother. He had rather be in bed. During the paroxysms of pain he frequently keeps his right thigh flexed. Quite a few of these little patients interpret this pain as a desire to evacuate the bowels and will want to sit at stool constantly. In older children, if allowed to go to the bathroim will almost invariably walk bending over toward the right side. It hurts them to straighten up. The very young will frequently cry if moved at all. It is usually at this time that the parents thinking the child has eaten indiscreetly or just has a little stomachache get out the old castor oil bottle and proceed to give a big dose. I can see no harm in an enema at this time, but a laxative is absolutely contra-indicated. It frequently precipitates a rupture and in this way greatly increasing our mortality rate. When a child is thought to be suffering from an attack of appendicitis all food and purging should be with held while the diagnosis is being mad.e It is also poor judgment to mass the symptoms with an opiate unless immediate operation has already been decided upon.

After abdominal pain nausea and vomiting follows within a few hours. However this may be absent. About this time the pain usually becomes more localized with tenderness and rigidity in the right lower abdomen. Tenderness and rigidity over the right recti muscles in the neighborhood of McBurney's point is pathognomonic of appendicitis and should be considered so unless proven otherwise. The localized tenderness is accompanied by a rise of temperature usually of about 100 or 101 degrees. As a rule temperature over 103 degrees suggests something else or a complication. A blood count made at this time will show a leucocytosis with an increase in the poly count. My cases have averaged 17,000 total white, 82% polys. Frequent blood counts help in determining the progress of the disease.

After rupture the patient seems for a time much better, but shortly vomiting re-occurs and tympanites and tenderness over the abdomen indicates the developing of peritonitis. That an appendix is allowed to go as far as rupture is not always the fault of the doctor. Parents quite frequently make light of the child's complaints and only after the distressing symptoms of a peritonitis will they seek medical advice and then quite often it is too late.

There is one rule I strictly adhere to and that is never to treat a chidl suffering from abdominal cramps over the telephone. Sometimes in the very young child where the abdominal examination has been unsatisfactory, a rectal examination will help. Constipation is the rule in these cases, but I have seen cases that seem to have started with a diarrhea.

DIFFERENTIAL DIAGNOSIS

1. Gastro-intestinal disturbances so frequent in the child quite often make the diagnosis extremely difficult. The blood picture and abdominal palpation will help us here.
2. Pneumonia may be confounded with appendicitis especially if it is right lobar pneumonia. In pneumonia the child appears sicker, the fever and blood count are higher, and respiratory rate is increased. If there is any doubt after a careful chest examination has been made, an x-ray plate will be helpful.
3. Acute intestinal obstruction and intussusception are frequently mistaken for appendicitis.
4. According to Brenneman acute nasopharyngeal infection may be confusing. The intestinal irritation with pain and vomiting in these cases is thought to be due to a secondary involvement of the abdominal lymph glands in the region of the appendix.
5. Urinary tract infections especially pyelitis may be misleading. Where the urinary tract is suspected a careful examination of the urine should be made. Several years ago I suffered quite frequently from pain in the right lower abdomen. I consulted quite a few of my friends and was told I had appendicitis. I was just on the verge of having it removed when a very timely x-ray showed a well developed kidney stone. A urine examination loaded with pus suggested the advisability of an x-ray.

Among other conditions might be mentioned gall-tract disease, salpingitis, psoas abscess and acute rheumatic fever, that is accompanied with severe abdominal pains. Acute primary peritonitis caused by pneumococcus or streptococcus are sometimes disguised as appendicitis; as is ovarian cyst with twisted pedicle, but these conditions are almost impossible to diagnose before operation.

I would like to mention here the so called "allergic abdomen." Some children that are sensitive to a certain article in their diet will suffer from vomiting and abdominal cramps that will simulate very closely an acute attack of appendicitis. I recall one such case in my practice. A girl of nine years who could not eat ice cream, milk or cheese without having an attack of abdominal pain and vomiting. However, she never developed any localized tenderness or rigidity. The diagnosis in this case with a negative abdominal examination was made from the history.

TREATMENT

As regards treatment I think one word is enough. Surgery. In acute appendicitis the quicker the diagnosis is made and the appendix removed the lower the mortality.

SUMMARY

When a child has acute abdominal pain especially with vomiting, be on the lookout for appendicitis. Do not treat such a case over the telephone. Caution parents at once not to give laxatives. Withhold all food until you have had time to either affirm or rule out the appendix. Make diagnosis as early as possible because quicker hospitalization of these cases will greatly lower our mortality rate. Depend more on the history and a careful examination than on the blood count or temperature.

The responsibility of a correct diagnosis is great. Don't be backward about asking for consultation. Call in a good surgeon and let him do the worrying.

APPENDICITIS IN CHILDREN

Memphis General Hospital in 1932

Total No. of cases	60	
No. of cases ruptured	15	25%
Mortality rate of ruptured cases	5	33 1-3%
Total No. of deaths	11	18 1-3%

The proportion between sex and race: White 38; colored 22; Males 33; Females 27.

1933 DATA

Total No. of cases	55	
No. of cases ruptured	12	21.81%
Mortality rate in ruptured cases	3	25%
Total No. of deaths	5	9.09%

The proportion between sex and race: White 31; colored 24; Males 32; Females 23.

From the Pediatric Department, University of Tennessee.

DR. SEALE HARRIS
Gastro-intestinal and Nutritional Diseases
Diagnostician
2234 Highland Avenue
Birmingham, Alabama

WADE CLINIC
Wade Building
Hot Springs National Park, Arkansas

DR. H. KING WADE, Urologist
DR. CHARLES S. MOSS, Surgeon
DR. J. O. BOYDSTONE, Internal Medicine
DR. ALLYN R. POWER, Proctologist
DR. COLEMAN C. BURNS, Eye, Ear, Nose & Throat
DR. RAYMOND C. TURK, Dentist
A. W. SCHEER, X-ray Technician
MISS ETTA WADE, Clinical Pathologist

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

Mrs. Dan J. Williams, Editor

Gulfport, Mississippi

Dear Doctor's Wife:

May I remind you of the Annual Convention to be held very soon? The Convention of the Mississippi State Medical Association will be held in Natchez, May 8, 9, 10, and we are anticipating a very delightful visit to this interesting old town.

The Auxiliary to the Homochitto Valley Medical Society has arranged a tour to several interesting places and a tea at D'Evereaux, the home of Dr. and Mrs. Raymond Smith.

But best of all will be the greeting of old friends and the meeting of new ones, for amid all the pleasures the first purpose of the Auxiliary is the establishment of FRIENDSHIP within the homes of the profession.

If you are a member of the Auxiliary we shall expect to see you there, and if you are not, please come and let's get acquainted.

THE AUXILIARY EXTENDS YOU A CORDIAL INVITATION!

Yours sincerely,
MRS. F. L. VAN ALSTINE.

PROGRAM

WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

Eleventh Annual Convention, May 8, 9, 10, 1934

EOLA HOTEL, NATCHEZ, MISS.

Tuesday, May 8, 3:00 p. m.

Meeting of the Executive Board.

Wednesday, May 9, 9:00 a. m.

Opening General Session:

All women attending Medical Association Meetings are invited to attend.

Invocation: Dr. George D. Booth, Pastor of First Presbyterian Church, Natchez.

Address of Welcome: Mrs. Edwin Benoist, Natchez, President of Homochitto Valley Auxiliary.

Response to welcome address: Mrs. C. C. Hightower, Hattiesburg, President of South Mississippi Auxiliary.

Order of Business:

Report of Officers and Standing Committees.

Message from Dr. J. W. D. Dicks, President of Mississippi State Medical Association.

Message from Dr. E. C. Parker, President-Elect of the Mississippi Medical Association.

Report of Delegates to A. M. A. Auxiliary.

Report of Delegates to Southern Auxiliary.

Wednesday, 2:00 p. m.

A drive to places of interest about Natchez has been arranged. Doctors wishing to make this tour are cordially invited.

Cars will leave the Pearl Street entrance of the Eola Hotel at 2:00 p. m.

Wednesday 6:00 p. m.

Tea at D'Evereux, the home of Dr. and Mrs. Raymond Smith.

Thursday, 9:00 a. m.

Invocation: Dr. George D. Booth.

Roll Call and Reports of Auxiliaries.

Report of Committees.

Election of Officers.

Introduction of new officers.

Adjournment.

Post Convention Board Meeting, Mrs. Henry Boswell, President, Presiding.

MEDICAL AUXILIARY ENJOYS LUNCHEON MEETING THURSDAY

Mrs. Frank L. Van Alstine, President, and Mrs. Henry Boswell, President-elect, are Distinguished Guests at Meeting held at Forrest Hotel; Officers for Ensuing Year also Elected at this Time.

The Auxiliary members of the South Mississippi Medical Society were hostesses yesterday to two distinguished Mississippi women, Mrs. Frank L. Van Alstine of Jackson, who is the present president of the state Auxiliary, and the president-elect, Mrs. Henry Boswell, who has filled such an invaluable place at the side of her famous husband, the founder and director of the Mississippi Sanatorium. Dr. Boswell is recognized internationally as a foremost authority on tuberculosis and his direction of the Mississippi Sanatorium has caused the eyes of the world to be focused on our state institution as a model of its kind.

Mrs. Boswell spoke at the Junior High school chapel yesterday on the Preventorium, the school and health-promoting unit of the Sanatorium devoted entirely to the youth of Mississippi. Mrs. Boswell stressed the fact that the Preventorium is what its name implies and not the unit of the institution dealing with cases already tubercular. The school is affiliated with the state schools and children placed in the Preventorium for the purpose of building stronger bodies are not only guided to better health but carry on the regular curricula recognized by state school authorities.

A luncheon meeting, given at the Forrest hotel, was the occasion for the presence of Mrs. Van Alstine, who has proved such an enthusiastic and valuable state president. She spoke on the efforts being made by the organization and laid special emphasis on the two main phases of work attempted by Auxiliaries—promotion of Hygeia, health magazine edited and published by the National Auxiliary, and financial and moral support of the Preventorium of Mississippi, essentially a social organization intended to foster friendships in the medical profession and to make more pleasant the various occasions for meeting with the husband doctors at conventions, etc., the Auxiliaries do not undertake other work of a serious nature. However, the local district Auxiliary has a committee composed of Mrs. H. C. McLeod, representing the Methodist hospital, and Mrs. W. W. Crawford, the Infirmary, to provide layettes for the charity wards of the institutions. Mrs. Van Alstine is a most attractive speaker with a delightful and pleasing personality.

Mrs. Boswell, than whom Mississippi has never produced a more capable or charming woman, is the new state president-elect. At the luncheon she repeated in part her lecture on the Preventorium given earlier in the day at the Junior High school. She also asked the interest and co-operation of the local organization in promoting the work undertaken by the national and state auxiliaries. She pledged herself to serve in the coming year all the auxiliaries of the state in any way possible.

Both speakers urged all doctors' wives to be present at the state Medical association in Natchez in May.

Music for this lovely occasion was furnished by members of families affiliated with the Medical Society. Mrs. Thad Fowler, nee Miss Martha Ross, and Mrs. Lawrence B. Hudson, Jr., were heard in lovely vocal solos, Mrs. P. E. Smith was heard in several beautiful violin numbers. All three were accompanied on the piano by Mrs. Albert Hassell, the only member not connected through family relations to the medical profession. Mrs. Leo H. Martin was also on the program but was detained because of illness.

Mrs. C. C. Hightower, who presided over the luncheon meeting, expressed appreciation for the beautifully arranged tables and the lovely luncheon to Mrs. Ernest Bethea and Mrs. D. B. Blackwelder, who had entire charge of the affair. Large cut glass bowls of double jonquils with variegated snapdragons and yellow baby breath fern were used on each table with a handsome silver bowl of the same flowers on the piano. A boutonniere of single jonquils tied with yellow satin ribbon marked each place at the tables. Corsages of Talisman roses and yellow baby breath fern marked the places of Mrs. Hightower, Mrs. Van Alstine and Mrs. Boswell.

As retiring president, Mrs. Hightower expressed sincere thanks to the entire membership for the loyal support given her during this first year of the organization. Less than a year old the auxiliary has 23 paid-up members with a number of new members joining at this meeting or coming in later. Mrs. Hightower stated that the contacts made during the year with the wives of the doctors in the South Mississippi Medical Society would always be an inspiration and she hoped would lead to deep and lasting friendships. Appreciation to the Hattiesburg American for their courteous treatment and generous publicity was expressed by Mrs. Hightower at this time.

A report from the committee on constitution and by-laws was given by Mrs. Richard H. Clark. Serving on this committee with Mrs. Clark were Mrs. W. W. Crawford and Mrs. Carlton Temple. The report was accepted and the constitution and by-laws adopted as read.

Reports were heard from the treasurer, Mrs. Grady Cook, and the various committees which follow: Mrs. W. W. Crawford and Mrs. H. C. McLeod, who composed the social service committee working through the hospitals. and Hygeia, with Mrs. T. E. Ross Jr., and Mrs. H. C. McLeod, working through the schools. The Preventorium has been the special work of the entire membership. Five dollars was donated to the institution and a prize of $2.50 offered for the best essay on the Preventorium after an entire program devoted to the subject and a lecture arranged at the local Junior High School.

Officers elected to serve the organization for the next year were: President, Mrs. Mabel Mason of Lumberton; vice presidents, Mrs. L. B. Hudson and Mrs. H. L. McKinnon of Hattiesburg; recording secretary and historian, Mrs. Ernest Bethea of Hattiesburg; treasurer, Mrs. Grady Cook of Hattiesburg; parliamentarian, Mrs. C. C. Hightower of Hattiesburg, and councillor, Mrs. L. L. Polk of Purvis.—Hattiesburg American.

Richard Curtis Smith

Physician. Born at Blue Springs, Miss., March 22. 1876. Son of James Minot and Keron (Pitts) Smith. Ed: H. S., grad., 1899; Poplar Springs Normal Coll; Hosp. Med. Coll., Memphis, Tenn., 1902 (M D.). Engaged in practice of med., Dwiggins, 1902-18, Drew, 1918—Vice Pres., Merchans & Planters Bank; Mem: Miss. State Med. Assn. (Vice-Pres., 1917); Clarksdale Med., Assn. (Pres., 1920); Sunflower Med. Assn., component part of Delta Med. Assn; So. Med. Assn; A. M. A; Tri-State Med. Assn. Club: Pres., Rotary. Democrat. Church: Baptist, Past Deacon. Married Lillian Agnew. Children: Curtis Agnew (7); Frances Keron (5). Office: Merchants & Planters, Bank Bldg. Home: Drew, Miss.

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Cancer

INTRODUCTORY—DR. G. S. BRYAN

Amory, Miss.

Mr. President and Gentlemen:

I have elected to bring to your attention a subject as broad and as long as the combined knowledge of all the medical men and scientists of all the world thru all the lapsing years of time. To-wit: CANCER. In my thinking, this is not only the biggest but the most important subject that challenges medical thought today.

To me, cancer has always been a weird, a compelling and fascinating subject. The first face that was photographed, so to speak, on my conscious memory, was that of a paternal uncle in whose home I spent the years of my infancy. In my memory, I still see that face as I saw it then. On the forehead, slightly above the right eye, I see a disfiguring patch or plaster. When this uncle would take me into his arms, my baby hands would, instantly and almost involuntarily reach and grab for that patch. I, soon, learned that I must not touch it; for I was taught by so doing I would **hurt** him. As the days and months wore on, my interest in this sacred blotch grew apace. I saw it grow and spread in the most insiduous way. I saw it creep closer and closer to the eye below it. I saw it invade the orbit. I saw it dim the luster of a kindly eye, as blindness came. Then I saw bare bone come into view. I watched the doctor, day by day, as he would carefully and dexterously pick fargments of this bone away. Soon I saw, for the first time a living human brain exposed to view. And when so exposed, I saw it bulge and recede with each beat of the tiring heart, and learned this strange phenomenon was due to the flow of a hidden blood stream, which flow was comparable to the ebb and flow of the tides. So it was that in the years of my infancy and earliest childhood I had my first lessons in pathology and physiology. At the age of seven, I stood by the bedside of this kinsman and for the first time in my life saw death smooth the lines so indicative of pain and despair from a human face. Then it was that I came to understand the full meaning of cancer—also of death. I feel impelled to quote George Hendon's words when he said "only the hand of death can paint a completed picture of pathology."

Again, in the early days of manhood, I watched a maternal aunt, fade and wither and die from the ravages of cancer. Once again, about fifteen years ago, I received a letter from my only brother, who, then, lived in the Mississippi Delta, that he had, in his right buccal cavity, an intractable sore. I, at once, wrote him to report to a well known surgeon of Memphis and to ask this surgeon, who was my personal friend, to write me his opinion of this, to him, insignificant sore. Just as I had expected, I was told that it was cancer. I was further advised that surgery was hardly to be considered because of the disfiguration and possible loss of blood. But I was advised that radium might have something to offer. I went to Memphis, immediately and carried my brother to one of the leading radiologists of the south. The sore disappeared, as if by magic, and my brother was delighted. But within a few days he became aware that all was not well. The entire right superior maxilla necrosed and the soft tissue surrounding it sluffed. The whole of the right side of his face fell away and in two or three weeks time the curtain was

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rung down with the glaring inscription "FINIS" upon it.

Do you wonder, then, that, CANCER looms large to me?

Abstracts From Symposium: The Curability of Cancer

FRANKLIN H. MARTIN, M.D.
Chicago, Ill.

Discussion—Dr. J. A. Crisler, Memphis, Tenn.

1. To impress upon the practitioners of scientific medicine, and indirectly upon the public, the fact that carcinoma is curable by the use of well known and established methods of treatment.

2. To point out in a convincing manner that if all cases of cancer could be diagnosed early and treated promptly in their incipiency, the annual death rate from the disease, now recorded as 150,000 in the United States and Canada, would be reduced by at least 33 per cent, or 50,000 per year. Even if only one-half of the cancer cases could be diagnosed early and properly treated, the mortality rate would be reduced by 25,000 per year.

3. To bring together the group of distinguished clinicians who reported last year, and those who are here present—an overwhelming authority—to present definite statements of the impressive number of cases of cancer that have actually been cured. This preponderance of evidence, so convincing as an object lesson, will impel every increasing numbers of the people to demand facilities, through scientific doctors, for annual or semiannual examinations, so that not only cancer but any and all diseases may be discovered in their incipiency, when they are amenable to treatment.

4. To secure the maximum of ethical publicity of the reports. This will furnish convincing evidence to our hospitals, our local medical societies and our already established clinics, and encourage them to furnish facilities whereby every physician who is practicing scientific medicine will have available the necessary equipment and trained aids to insure the comprehensive examination of his patients.

5. To convince the profession and the public that even though cancer is already apparently in a later stage of its development, if it is subjected to proper treatment its progress may often be delayed and the disease not infrequently cured; to make these facts so obvious that a general policy will be established to treat systematically every case of cancer, in whatever stage of advance, not only because of the immediate or remote possibility of a cure, but because palliative measures would bring about great relief of distressing symptoms and encouragement instead of forlorn hope.

6. To establish a universal policy among physicians and surgeons to report cancer cures rather than to present the involved comparative statistics that dwell particularly on the cases not cured.

If, we here present accomplish the full humanitarium purposes for which this yearly symposium was organized, the discouraging psychosis that now exists in the minds of the profession as well as of the public will be dispelled; a consciousness that cancer is curable will be established in the minds of all; fear will be displaced by a spirit of hopefulness; and every victim of cancer or suspected cancer will present himself for early diagnosis and treatment.

CANCER AS AN ARRESTABLE DISEASE

Charles A. Dukes, M.D.
Oakland, Calif.

Would it not be better if we could establish the same psychology in the mind of the laity in regard to cancer, so that when a diagnosis is made, instead of everyone connected with the case trying to hide the disease, and the patient even going into seclusion, and possibly the doctor telling him of the hopelessness of the situation, we establish the same hopeful psychology in the patient and his friends as in tuberculosis, showing them that an **arrestment**, if not a complete cure, is possible, and that the patient may entirely outlive his expectancy in comfort even though the disease is not entirely removed. Why not give this type of case the same hope and encouragement that we give to the tuberculous—class them as arrestable and then group them according to type and severity, and begin a systematic study of their treatment and proper disposition?

I am convinced that a cancer organization similar to that of the tuberculosis association will be necessary, that it is by this approach to the subject that we are going to gain the confidence of the public, and that it is when this confidence is obtained that we will get control of the early and curable cases. We must bring the cancer case back into the field of hope and into a life of greater comfort, cure or arrestment.

FIVE YEAR CANCER IN THE SOUTH

Frank K. Boland, M.D.
Atlanta, Georgia

Formerly it was supposed that the colored race was not as susceptible to cancer as white people. In slavery times in the South few negroes were reported to suffer from the disease. Today the proportion of cancer cases is almost the same as in the white race. Full blooded negroes and mulattoes are equally susceptible.

FIVE YEAR CURES IN CANCER

John J. Galligan, M.D.
Salt Lake City, Utah

For the past thirty years the mortality rate in cancer has risen steadily throughout the world and in the United States it has gradually mounted in the past 50 years until it is now the second leading cause of death. With the passing of nearly 125,000 afflicted annually, or well over a half million in a given period of 5 years, a most formidable problem for solution is offered to the members of the medical profession.

With such figures at hand it is not surprising that the laity has come to regard cancer as practically a hopeless condition, characterized by a torturing period of pain and suffering. In the midst of the majority of people there is an ingrained notion that cancer in each and every one of its varied forms is absolutely incurable and that a diagnosis of malignancy is tantamount to a sentence of death. Tuberculosis, pernicious anaemia, diabetes, and many other serious diseases have lost their dread, but cancer still strikes with ghastly terror.

The hour seems now at hand, however, when approval has been given for definite plans to educate our own and forthcoming generations in the early recognition and control of cancer. Not with the idea of creating a fear of the disease, but to overcome the well known reluctance manifested on the part of the patient in seeking proper advice and counsel before it becomes too late.

With determination and fortitude we are entering upon a new phase of scientific advancement that does not frown upon publicity in a sincere effort to combat a relentless enemy. Today from city, town and hamlet, a group of earnest physicians and surgeons has gathered to carry on a splendid movement, the evaluation of which only time can tell in definite results.

FIVE YEAR CANCER CURES

Irvin Abell, M.D.
Louisville, Ky.

The aggregate number of 5 year cancer cures reported at the last meeting of the American College of Surgeons was 8,840, affording inspiration and encouragement in dispelling the gloom with which both the profession and the laity are wont to regard this subject. Each fellow of the College should feel it a duty to make an accurate follow up of the cancer cases that have come under his care with the view of demonstrating the curability of cancer as well as the prolongation of life afforded by its treatment. By so doing not only will these ends be attained but the accumulated material will offer a basis for the correct evaluation of the methods of treatment now employed in its alleviation and eradication.

CANCER OF THE LARYNX; ITS CURABILITY BY LARYNGOFISSURE

Chevalier Jackson, M.D.
Philadelphia

In the general study of the whole cancer problem all cases encountered should be reported; but when we wish to present evidence that cancer is curable it entangles the presentation in a hopeless mess of involved statistics which include hopeless or even borderline cases. We all know that cancer in most regions of the human body is curable if encountered in the curable stage. There are many cases encountered at a later stage in which the surgeon's conscience forces him to give the patient what prolongation of life he can though the case is nearly hopeless. This is proper, but these cases should not be taken as a criterion of the curability of cancer as applied to patients who come for treatment in the unquestionably curable stage.

THE RESULTS IN ONE HUNDRED TRACED CASES OF CANCER

Damon B. Pfeiffer, M.D.
Philadelphia

It is my belief that the cancer case will get the best treatment at the hands of a group consisting of the surgeon, radiologist, pathologist, internist, and specialist in the minor surgical branches, and that the surgeon should be the integrator of the group, provided he has had experience in pathology and has taken the trouble to acquaint himself with the fundamentals of radiotherapy and its real accomplishments. Such a group is possible in any well ordered and equipped hospital. With such arrangements more generally available, we may justly proclaim that we know a cure for cancer, that what we do not know, all too often, is the existence of cancer in the individual patient in the curable stage, and therefore that an incurable cancer represents not the **incurability** of cancer but an **opportunity** lost.

A STUDY OF 432 CASES OF CANCER ON A GENERAL SURGICAL SERVICE BETWEEN 1916 AND 1926

Eugene H. Pool M.D. and John A. Vietor, M.D.
New York, N. Y.

A survey of 54 cases of carcinoma of the thyroid in recent years shows that more than 92 per cent originated in adenomata. All the cures that were effected took place in either the papillary or adenomatous type of carcinoma. Recurrences in thyroid malignancy usually are very prompt, so that if a patient survives 1 year the result corresponds approximately with the so called 5 year result of carcinoma in other parts of the body.

In conclusion we emphasize the following points:

1. About two-thirds of the ward patients applied for help when their condition was so far advanced as to be inoperable.
2. In this type of patient only 1 out of 6 treated by radical surgery survived the 5 year period.
3. One-fourth of these developed subsequent metastases or recurrences.
4. The syncytial tissue of chordomata is radiosensitive.
5. Over 92 per cent of carcinoma of the thyroid originate in adenomata.
6. A 1 year result in carcinoma of the thyroid is equivalent to the usual 5 year result in other malignant growths.

FIVE YEAR CURES OF CANCER OF THE BREAST AT THE MASSACHUSETTS GENERAL HOSPITAL

Robert B. Greenough
Boston, Mass.

The primary operable cases of the years 1918 to 1926 also have been studied with regard to the degree of malignancy of the primary tumor. Of 258 cases there were 55 Grade 1 (low malignancy) with 44 "cures", or 80 per cent; 193, Grade 2 (medium malignancy) gave 75 "cures" or 39 per cent; and 110 Grade 3 (high malignancy) cases, gave only 14 "cures" or 13 per cent.

The conclusion is thus justified that the degree of malignancy of the tumor is of considerable significance in prognosis; and that this factor, in addition to that of the extent of the disease, should be given due consideration in estimating the probability of cure of cancer of the breast.

From 1917 to 1926 prophylactic X-Ray treatment either pre-operative or postoperative, or both, was employed in 254 of the cases of radical operation. The dosage of X-Ray given in those years, however, was much more superficial and undoubtedly less effective

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than that in use today. No material difference in the percentage of 5 year "cures" could be determined between the 254 radiated and the 120 non-radiated cases. X-Ray cases gave 35.4 per cent "cures" and those without X-Ray 35.8 per cent. The conclusion appears, therefore, to be justified that early and radical surgery is the most effective treatment for operable cases of cancer of the breast.

CANCER OF THE BREAST

Malvern B. Clopton, M.D.
St. Louis, Mo.

This report is on 197 cases of cancer of the breast treated by radical operation at Barnes Hospital. All of the patients have been traced and all of them were operated upon between 1912 and 1933. There were 2 males in this series. The proportion of married to single females was 5 to 1. The largest number of patients was found in the decade between 40 and 50 years of age. Previous disease of the breast, presumably benign, was associated with cancer in about 8 per cent of the cases. Cancer was bilateral in 24 patients. No evidence was found that patients presented themselves for treatment any earlier in the last 10 than in the previous 10 years. The total number of cases of breast cancer treated at the hospital during this period was 354; 93 per cent of these have been traced.

I shall report statistics from the group of patients operated upon by radical measures, which is the Halsted method, over 5 years ago. Of these cases 126 were traced; one-third had the disease confined to the breast, and in two-thirds the cancer had advanced beyond the breast involving the axillary glands, and in many cases the skin and other structures; so that in this group about one-fourth of the patients were considered unfavorable before operation. Of the 27 cases with the disease in the breast alone there were 24 living and well 5 years after operation, 64 per cent, and 10 lived over 10 years, 27 per cent. In 89 cases the cancer extended beyond the breast. Of these 27 were alive and well 5 years, 30 per cent; and 8 cases lived over 10 years after operation, 9 per cent. Grouping the two classes into one there were 126 cases of which 51, or 40 per cent, were living and well 5 years, and 18, or 14 per cent, living and well 10 years after operation. One each lived 21, 18, 17, 16, 15, 14 years, and 6 lived 13 years after operation. It is our opinion and also the opinion of the radiologist, Dr. Sherwood Moore, that it cannot be said that radiation has prolonged life or prevented the incidence of recurrence, nor can any harm be said to have come from radiation. Visible local recurrences were occasionally favorably affected by radiation, seeming to be temporarily arrested. In an occasional inoperable case radiation seemed to have a favorable influence by reducing the size of the tumor and metastases. Radiation of skeletal metastases showed at times a tendency to heal the bony defect and to give relief from pain.

It is our impression that adenocarcinoma gave the most favorable outcome. Our cases were not all studied in regard to the cell classification of Broders. Cases that come in late to the hospital must neces-

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sarily give us poor prognosis. In my own private series I have been fortunate in seeing many cases early and the result has been that over 50 per cent are alive and well 5 years after operation. Many of these patients had an axillary involvement and diagnosis was impossible until the nature of the growth was revealed at operation.

CARCINOMA OF THE BREAST

Surgical Treatment and Results Five, Ten and Fifteen Years After Radical Amputation

Stuart W. Harrington, M.D. and E. Starr Judd
Rochester, Minn.

A review of the cases will show that in about 8 per cent the lesion has ulcerated either because of inadequate attention or because of delay in seeking competent advice. It has been estimated that in three-fourths of the cases in which there is fixation of the skin over the tumor, metastasis will also be present. The likelihood of extensive spread of the disease is still greater if ulceration has taken place.

Present clinical methods are inadequate for making a diagnosis of carcinoma of the breast with absolute accuracy until the disease is fairly well advanced. Many times the patient does not know that a tumor is present in the breast until it is recognized by a physician in the course of an examination for some other condition. Frequently involvement of lymph nodes already has taken place. This shows how impossible it is to judge the duration of the disease from the time the tumor was discovered. The presence or absence of involvement of lymph nodes is the only definite indication of the duration of the lesion.

Because malignancy cannot be recognized by the signs and symptoms in all cases, it will be necessary of course in some cases first to excise the growth for microscopic study in order to arrive at the correct diagnosis. If carcinomatous change is found, then complete radical amputation of the breast should be performed immediately. This will include removal of all of the lymph nodes along the upper portion of the brachial vessels, the axillary and sternal lymph nodes, and the lymph nodes that lie along the lateral thoracic wall, both above and below the axillary blood vessels, to a point at which the axillary vein becomes the subclavian vein. Adequate treatment them, includes removal of the breast, the subcutaneous tissue, the axillary nodes and node bearing fascia, the pectoralis minor muscle, and the greater portion of the pectoralis major muscle. The importance of early recognition of the disease and thoroughness in this operative procedure cannot be overestimated.

The most significant factors influencing the results of surgical treatment are the grade of the malignant process, the extent of involvement at the time of operation, and the thoroughness with which the radical amputation is carried out at the time of primary operation. Experience shows that many times the disease has been allowed to progress while other forms of treatment have been tried; perhaps a conservative operation has been done. Therefore, the importance of complete radical operation, in the beginning, stands out even more clearly than when the former study was made.

In the study of 2,656 cases, the lymph nodes were involved in an average of 64.6 per cent of cases at the time of operation. With extension of the disease in such a large proportion of cases, it is evident that the patients are not coming for attention sufficiently early to obtain the best results from operation. Unfortunately, the percentage of patients with involvement of lymph nodes at the time they come for treatment is not decreasing. A conservative estimate shows that fully 70 per cent of patients operated on in the clinic during the last year had carcinomatous tissue in the lymph nodes as well as in the breast. Undoubtedly the present economic situation is partially responsible for the delay in seeking attention.

Each year, in the course of physical examination carried out as a routine, several women with carcinoma of the breast are encountered who had no knowledge of the presence of a growth, although in some cases the disease may have made considerable progress. The only way that we shall ever be able to treat a greater proportion of the patients early in the course of the disease is to recommend a physical examination yearly, keeping in mind especially investigation of the mammary gland.

The percentage of the various grades of carcinoma of the breast approximates closely that of the four grades of carcinoma of other organs. However, we have learned that the same careful attention to detail in carrying out treatment may result in a considerable period of palliative relief if not of cure, even if extensive, active carcinoma is present. At least 11 per cent of the patients with carcinoma, graded 4, and with involvement of lymph nodes, will live 10 years after careful radical amputation of the breast. If extension by way of the lymphatic structures had not taken place by the time of operation, 38 per cent would have lived 10 years. This knowledge has made us more courageous in our attempts to obtain favorable results in patients with evidence of an extensive malignant process, and often they have had many additional productive years of happy life. For this reason the discouraging attitude maintained by many physicians will be unwarranted in the future. Although it is true that better results than were expected were secured in some cases in which extensive involvement of the lymph nodes was present, it is also certain that if operation had been performed early in the course of the disease the percentage of patients living several years would have been higher, and some of them would have obtained permanent cure. Although patients are not presenting themselves for treatment early enough, our educational effort is bearing some fruit, for at least there is wider recognition of the menace of a tumor in the breast.

FIVE YEAR CURES IN A SERIES OF FIFTY-FOUR BREAST CANCERS

James M. Mason, M.D.
Birmingham, Ala.

This paper analyzes in relation to 5 year cures, a series of 54 breast cancers which were treated at St. Vincent's Hospital, Birmingham, Alabama, during the years of 1922 to 1928 by Doctors Cunningham Wilson, Earle Drennen, S. L. Ledbetter, Jr., B. S. Lester, and myself, of the surgical staff, with the addition of a few cases which were operated on by other surgeons who occasionally visit this hospital.

In practically every instance these were private patients of the class whose general information and intelligence would direct them, one would suppose, to seek prompt relief for any condition which suggested the possibility of malignancy; thereby differing greatly from that great army of cancer patients of less intelligent type who present themselves at our public clinics only after the disease is hopelessly advanced. It is lamentable, however, that many of the better informed and more intelligent do not seek early relief; and this is conclusive evidence of the necessity for the vigorous campaign of education which is being carried on by The American College of Surgeons in its endeavor to inform the public that cancer is curable if recognized and removed at an early period.

CANCER OF THE BREAST—A CURABLE DISEASE

John T. Moore, M.D.
Houston, Texas

The diagnostic, or better say, the guessing ability of those who propose to differentiate between benign and early malignant lumps of the breast is open to serious question. One of our most distinguished surgeons ,a great teacher, said last year when contributing to the cancer symposium, "In the present state of our knowledge, there can be no possible excuse for failure to recognize cancer of the breast." At what stage? Only when the growth is fairly well advanced. Does he mean that there can be no excuse for not taking out the lump and having it diagnosed by a competent pathologist, or does he mean that it should be done without this? What are the signs of early cancer? Only one sign, a lump in the breast. How can the lump be differentiated with a fair degree of assurance? Only by removal and frozen section. Yes, there is another method. What is it? Wait until the unmistakable signs of cancer are present, then by the rote repeated methods as are now too frequently taught we may with confidence arrive at a diagnosis of cancer but with decidedly less confidence approach the operating table and anticipate a cure.

With the impetus given to patients through educational movements, the lay magazines, etc., portraying the signboards of danger, we are seeing cancer earlier than ever before. The first problem we must answer when these patients present themselves is, Is there a lump? We are seeing a great number of people who think they have a lump but in whom no lump is found or who have chronic cystic mastitis.

Granted there is a lump we have avoided procrastination until unmistakable signs of cancer appear, signs which by their very nature are late, and, to quote from Caesar, we have chosen rather to "think him as the serpent's egg, which hatched might as his kind grow mischievous and kill him in the shell."

That when we have waited until there is retraction of the nipple, shortening of Cooper's ligaments, peau d'orange or pigskin appearance, or glands in the axilla, we are dealing with necessarily late cancer, and have lessened thereby very materially the patient's chances for recovery. Certainly many tumors of the breast are non-malignant growths, and if left alone would possible remain simple, but we must deal with early cancer to obtain our objective of a 100 per cent recovery.

The scalpel still remains our best weapon in dealing with malginancy of the breast, and X-ray and radium must still be regarded as the handmaids of

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CARCINOMA OF THE CERVIX UTERI

Report of Five Year Cures by Radium in British Hospitals

H. Beckwith Whitehouse, M.S. (Lond)
Birmingham, England

The knowledge that cancer is a curable disease is perhaps the greatest contribution that the medical profession can hand to the public at the present time when world statistics show that the scourge is on the increase.

In the preparation of my report I have deliberately restricted investigation to one aspect, viz., the permanent cure of carcinoma of the cervix uteri by means of radium. I have had before me not only the figures from my own clinic, but also those from 5 other leading research centers in England and Wales as collated by the Medical Research Council of Great Britian. The hospitals which have furnished the material analyzed are St. Bartholomews, University College, The Middlesex and the Marie Curie, in London; The General Hospital, Birmingham, and the Royal Infirmary, Cardiff. The total number of patients treated with radium for cancer of the cervix uteri in these clinics between 1921 and 1926, inclusive is 507. Of these women, 56 were alive and well at the end of 5 years or longer, giving an absolute curability rate of 11 per cent.

The figures that I have the honor to submit for your consideration prove beyond doubt that cancer of the uterus is curable in its earliest stages. The total curability figures, however, are not likely to be improved without better co-operation between the general public and the medical profession to ensure the earliest recognition and treatment of the disease.

May I in conclusion utter a plea for improvement in the investigation and treatment of the precancerous cervix? The lacerated and chronically inflamed cervix, so often a neglected legacy of childbirth, is a condition fraught with the greatest danger and I should like to see every one of those lesions adequately treated. It is good to treat cancer and cure it, but it is better still to prevent it!

CAN WE INCREASE THE PERCENTAGE OF CURES IN CANCER OF THE CERVIX UTERI?

George Gellhorn, M.D.
St. Louis, Mo.

The successes reported last year and today prove conclusively that cancer of the cervix uteri can be cured. This fact cannot be impressed too strongly or too often upon the minds of both the medical profession and the lay public. When Dr. Martin conceived the idea of annual symposia on cancer cures, one of the prinicipal objects was to bring about earlier recognition and treatment. This object, no doubt, eventually will be accomplished, but it will take much time because humanity in the aggregate moves exasperatingly slowly, even when its own best interests are at stake. Remember there is even today an antivaccination movement!

Meanwhile, however, we ourselves can do a good deal to improve existing conditions; for while we justly may be elated over every patient whom we have saved from certain death, we must admit to ourselves that the net results are still pitifully meager.

In late years the surgical side of the treatment of cervical cancer has been largely discarded. This, to my mind, is unwarranted by fact and contrary to the principle of individualization in medicine. I never can make myself believe that every single case should be treated alike and treated exclusively with radium. It is true that the radical abdominal operation is too difficult for the average operator, but these technical difficulties can be overcome by practice on the cadaver. This applies even more strongly to the radical vaginal operation which has the advantage of a lesser primary mortality. I presented the steps of this operation before the Third Clinical Congress, held in New York in 1912, and I have found the method advantageous in a constantly increasing number of cases. Last year corroborative evidence was given by MacLean, of Winnipeg, who cured all of his 5 cases of cervical cancer by this operation.

SUMMARY OF THE END—RESULTS OF TREATMENT OF MALIGNANCY OF THE THYROID GLAND AND THE COLON, INCLUDING THE RECTUM AND ANUS

John deJ. Pemberton, M.D. and Claude F. Dixon, M.D.
Rochester, Minn.

Since a very high percentage of malignancy occurs among patients with pre-exisiting nodular goiter, adenomatous goiter must be thought of as a precursor of malignancy, and since early malignancy of the thyroid gland presents no symptoms to enable it to be distinguished from benign nodular goiter, a potential risk of malignancy should be considered in every case of nodular goiter.

PREMATURE CURE OF CANCER OF THE THYROID

Martin B. Tinker, M.D.
Ithaca, New York

The preventive treatment of thyroid malignancy should be the treatment of the future. Early removal of goiter not only avoids likelihood of malignant change but spares the patient the danger of death from thyroid toxaemia or a damaged heart muscle. My series shows 11 cases in which the goiter had existed 20 years or more before symptoms of malignancy developed, in 7 cases 25 years or over, and in 2 cases over 45 years, before malignant symptoms appeared. It is, of course, impossible that these patients could have survived so long and had actual malignancy been present from the onset of the goiter.

Early operation is the only prophylactic treatment until we have more adequate knowledge as to the causes of goiter and malignancy and their prevention. In the meantime a combination of electrosurgery followed by irradiation, used even in many apparently hopeless cases, gives a highly encouraging number of cures which will doubtless increase with further experience.

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Factors Influencing the Control of Cancer

SHIELDS ABERNATHY, M.D., F.A.C.S.
Memphis, Tenn.

In spite of the magnificent effort by the medical profession in the attempt to control cancer and the steady progress in the standardization of the treatment of the disease, the rising increase in the incidence of the disease is hardly short of alarming.

While the veil of mystery still enshrouds that most devastating and so often fatal disease, cancer, the sum total of the knowledge that has been acquired in recent years is so great that it is hardly within the compass of one human brain to assimilate all that is known within man's allotted life time. Even though it is now an established fact that 80% of early cancer can be cured, the factors and influences that militate against the early diagnosis and proper treatment are so many and varied that the task is one of Herculean proportions and one that can be accomplished only through a persistent, intelligent and well directed, coordinating effort on the part of the medical profession.

On account of its usual fatal termination when unmolested, cancer, probably more than any other disease, requires of him who would conquer it, at the least, a well grounded knowledge of histology, physiology, anatomy, pathology, surgery and radiology.

To say that very little is known about cancer is paradoxical for while its cause is still unknown and is the goal for which legions of master mind are striving and no specific curative measure has been evolved, the amount of knowledge gained in recent years is amazing. So much has been learned about the conditions that precede the development of cancer. A vast amount of knowledge has been acquired as to its habitat, its characteristics, its tendencies and its amenability to various forms of treatment.

Ranking as a high officer among the scourges that beset mankind, it has proved to be a relentless and almost unconquerable foe and under our present day civilization its occurrence is on the increase and its toll of death and suffering would be appalling were it not for the concerted fight that has been made and is being made against it more and more all the time.

The incidence of cancer is admittedly, and in some sections, appallingly on the increase. It is second only to heart disease as the cause of death in U. S. A., yet truthful statistics show that 80% of cancer can be cured in the early stage and in 40 to 50% of the more advanced stage in certain locations a cure can be effected. Organic heart disease is incurable and the best that can be hoped for is a prolongation of life through regulation of living habits and it is a rather sad commentary on our dissemination of

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knowledge and enlightment of both the profession and laity that the attitude toward cancer has not improved much as a whole.

There are a number of facts which still militate against the early recognition and treatment of cancer and all of them are predicated upon ignorance in spite of the vast amount of knowledge that has been disseminated. The attitude of the profession as a whole is one of rather indifferent hopelessness and the average practitioner is prone to soothe his conscience and absolve himself from all responsibility by sending a hopeless case in his practice to some one else. In order to improve the situation the profession must become cancer conscious and learn to recognize the warning signals and signs of cancer and take definite action then.

If every practitioner of medicine would keep before him the fact that one out of every seven of his patients and friends will develop cancer and will learn to recognize the early manifestations, the mortality rate will be reduced commensurately with his efforts. It is a rather common occurrence today for the woman with a lump in her breast to be advised to wait awhile and see if the lump enlarges or gives any pain. There are still those who believe that cancer of the cervix is diagnosed only by the presence of hemorrhage and odor. It is not such a rare occurrence to see a case of cancre of the rectum or recto-sigmoid that has been operated upon for hemorrhoids or chronic appendicitis some months previously.

To bring about maximum results in the control of cancer in the light of our present day knowledge, there are four component elements that must be considered and each must play its part. These are the patient, the doctor, modern treatment, results and expectancy.

The patient:

It is an almost inconceivable and most unfortunate fact that our present day educational system has failed so utterly in teaching the individual that a sound body is his most priceless possession and that prevention is greater than cure. The ignorance of the average successful educated man in regard to his bodily welfare is exceeded only by his indifference. It has seemed to be the purpose of our great universities in the last generation to prepare the young man to be a star football player or to be sacrificed as "gun-fodder" and no lasting and personal knowledge about his bodily welfare has been instilled into him to serve him best when he reaches the age of 40 when his most productive years are just ahead of him and at the same time when his body is more susceptible to ravishing disease especially cancer. This lack of knowledge permits age old superstitions and beliefs to still exist and this is particularly true in regard to cancer. In spite of the stupendous efforts of the American Society for the Control of Cancer in the dissemination of knowledge about cancer, the public, at least in this part of the country, has not grasped the fact that cancer CAN be cured, and it is fairly common in my experience to hear individuals express great surprise that cancer is ever cured. This is most convincing that a more personal touch must be added and it is through the family physician in his more intimate relationship with his patients that this can be accomplished. Without the creation of phobias well people must be taught that periodic examination is the cheapest health insurance. It is a noteworthy fact that the average individual thinks more of his Ford automobile than he does of his health, for he will spend about $20 a year on insurance against fire and theft but nothing against disease. I feel hopeful that periodic examination of individuals past 35 years of age will become an accomplished fact when I take cognizance of what the dental profession has done within the past twenty years in the establishment of prophylactic measures in the care of teeth. Needless to say that it has required concerted action to accomplish this.

The patient who has cancer must receive special consideration. There are two types of these patients, the one who is filled with mortal terror in the belief that cancer can not be cured and who does not believe the medical advice given him, and the other who is indifferent to or ignorant of the gravity of his condition and is prone to seek relief from the quack with his plasters and escharotics.

The first type of patient primarily requires some assurance that cancer can be cured and when the definitely established fact that eighty per cent of cancer can be cured becomes general knowledge, the control of cancer in this type of patient will reach a much higher degree of efficiency. It must be remembered that in our own generation appendicitis was considered a highly fatal disease and the operation for this condition was a last resort measure and too frequently performed too late.

The indifferent or ignorant cancer patient must be impressed with the gravity of his condition and must be convinced that delay means disaster even though he may have a newly developed growth. There are two groups of this type of patient, one who taxes our patience, enlists our sympathy and should stimulate us to more earnest and effectual efforts to disseminate knowledge. One is the group who still possess a relic of primitive voodooism and looks to the medicine man of his tribe to cure his ills by mysterious means. This patient is the too often victim of the quack and when he finally presents himself for scientific treatment he has sinned away his days of grace and it is too late.

The other group is made up of those who will not listen to medical advice and expect and demand a cure from inadequate treatment. Only recently such a patient applied to my clinic for treatment of a cancer of the tongue. The lesion was fairly early but most likely engrafted on an old luetic glossitis as most of them are. The day was Sunday and the patient was seen about eleven o'clock in the morning. He expected to receive curative treatment that afternoon and get back home that night and attend to his duties the next day. When our plan of treatment was outlined to him he balked and said he would go home and think it over. He has not been heard from. This particular type of cancer metastasizes so early that the most adequate treatment often fails. The full effect of our armamentaria is required to produce any favorable results whatever in this particular lesion. This patient no doubt will throw away any chance of cure that he may have.

Another most vital factor in the control of cancer is the cooperation of the patient while under treatment and particularly observations. Under the present order of things it is most difficult to have these patients report regularly for observation.

Following the improvement of the initial treatment a good percentage of these patients will not report for observation because they do not have pain and the apperance of a small painless metastic lump does not impress them with the gravity of the situation. The opportunity to salvage any of these patients who fail to report for observation by recognition and treatment of early metastases is lost through lack of cooperation.

In order to overcome this it is now our plan of management to explain the vital importance of follow-up observations and treatment to the patient and we do not accept any patient for treatment who is unwilling to cooperate with us and receive the maximum adequate treatment of his individual case.

The doctor:

From the foregoing statements it will be seen that the role of the doctor or family physician is equally or more important than that of the specialist in the application of the present day means of cancer control and in reaching the goal of eighty per cent cure of early cases and salvage and prolongation of life in the more advanced cases.

To my mind there is a striking analogy today between our political situation and the cancer situation. During the past two generations we have not been politically conscious and have entrusted the management of our governmental affairs to parasites who have eaten the heart out of our social structure. With only an occasional exception, the medical profession is not cancer conscious and on the whole its attitude is lukewarm toward early cancer and hopeless and helpless toward advanced cancer. The profession as a whole must become cancer conscious and surely a disease that attacks one out of every seven past forty and ranks second in the cause of death, and is greatly on the increase is a menace of such proportions to enlist the ardent zeal of the profession. Unfortunately cancer affects only individuals just as unfortunately it produces pain only in the terminal stages. If only it were looked upon in the same category as leprosy great strides would be made in the control and cure. To meet this lack of apparent urgent demand, the family doctor must step into the breach and become cancer conscious. He must first learn to appreciate the mutual benefit of periodic examination of his patients. I do not believe I have been accused of being mercenary, but I sincerely believe that if the family physician would realize that his income would be materially increased by education of his clientele to periodic examination, his motive might be mercenary but the good accomplished would outweight his motives. We hear a good deal said about periodic examination but very little about how and what to look for. It seems to be a foregone conclusion that the practitioner should have learned this when he was a medical student. Our modern large hospitals have charts for the recording of every thing about a patient from birth to death, and physical findings from head to foot, supplemented by laboratory reports ad infinitum, but after all the diagnosis

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The average practitioner of medicine has God-given faculties which will enable him to make a comprehensive periodic examination of great value to the patient would he only use them. His bedside experience will distinguish the well from the sick, but he must learn to use his eyes, his ears, his fingers, his nose, and a big dose of common sense in the proper examination of every individual. He must keep before him the facts that hoarsmess lasting over a period of several weeks may mean cancer of the larynx, vague digestive disturbances may mean cancer of the stomach, rather sudden change in bowel habits most probably means cancer of the colon, bleeding from the rectum does not always mean hemorrhoids, and last but not least that leucorrhea always means disease and that change of life is not accompanied by flooding spells or spotting. One more comment and I am through with the doctor. The lump in the breast when allowed to progress to the point of clinical diagnosis of malignancy is most frequently hopeless.

Modern Treatment:

Were cancer a local disease first and last the cure would be simple, as extirpation of the growth would be as effective and lasting as removal of a diseased appendix or gall bladder. Such being not the case, the factors influencing the plan of treatment of a given case are sundry and varied. Were it possible to bring all cases under control in the very early stage, surgical removal of the lesion without mutilating sacrifice of normal tissue would be the ideal procedure. A more advanced stage in the progress of the disease is amenable to surgical removal of the local lesion and eradication of the glandular drainage area of the part affected. These operations are most radical and multilating in certain localities and they are not any too satisfactory. According to Bloodgood, surgery reached its zenith in the treatment of cancer by the year 1900. Since that time however, increased knowledge of the very nature of cancer, lymphatic drainage of various areas and the perfection and standardization of surgical procedures have unquestionably improved the results of operations performed by the average surgeon.

The advent of Radium and deep X-Ray therapy has brought us two most formidable weapons with which to fight the disease and cancers in certain localities have been removed from the domain of surgery and are treated altogether with these measures, cancer of the cervix being the most outstanding example. So, our modern day armamentarium for the treatment of cancer is made up of surgery, radium and X-Ray, the cautery knife being considered a part of surgery. To produce the most efficient results it is necessary to know what plan of treatment is most effect in a given cancer and to select any one or combination of these measures in the treatment. The guiding point of greatest value in the selection of the plan of treatment is the knowledge of whether a given cancer is radio-sensitive or radio-resistant. Most cancerous growths in their various localities have been classified as to their response to irradiation, but a microscopic study of the individual case is most helpful in the selection of the plan of treatment and also in the prognosis. Radium therapy has been fairly well standardized but added knowledge and improvement of technique are producing more favorable results all the while.

The most outstanding advancement in recent years has been the improvement in deep X-Ray therapy which followed the adoption of the universal dose or the "r" unit in 1928, by the International Congress of Radiology. Following this the "r" meters were developed and with this instrument we were able to measure an accurate dose. The development of the X-Ray machine by the use of valve tube rectification of the current and oil cooling system for the tube has enabled us to get a much greater dose through a higher filtration for a given period than was formerly possible. This enables us to filter out everything except the very hardest rays produced by the 200,000 volt machine and give a maximum dose in the minimum length of time. There has been installed throughout the country three or four machines that are capable of producing 800,000 volts. They are, however, operating at 600,000 and the reports from these men so far have been very little, if any, better than the results obtained with the 200,000 volt machine which will deliver sufficient current through two millimeters of copper. There is no advantage in the character of the wave length between two millimeters of copper and five millimeters of copper.

With the machine using valve tube rectification oil cooled tube and high filtration and small ports we have been able to reduce the secondary radiation to a minimum and consequently our radiation sickness or ray sickness as it is commonly termed is practically nil. We have recently installed in our clinic one of the newer type valve tube rectified units with an oil cooled tube. Since its installation we have treated 100 patients with gratifying results.

In the treatment of cancer, deep X-Ray therapy not only is a curative measure but is our chief dependence in palliative treatment of the advanced and hopeless cases. The pain in a great many cases is alleviated and in a greater number of cases is ameliorated and the progress of the disease is temporarily arrested. Ulcerations are frequently healed, foul smelling discharges are frequently stopped and tumor masses obstructing the lumen of a hollow viscus are frequently shrunk so as not to produce an obstruction.

It is possible with the above named equipment to treat deep seated abdominal malignancy without defeating the purpose which we started out to accomplish. We have seen in the past hopeless malignancy of the stomach, colon, peritoneum and general abdomnial malignancies treated with X-Ray and the ray sickness was so severe that the patients instead of improving were made worse by the fact that they started vomiting and the resulting dehydration produced further vomiting. In several instances, we have noted death. We have treated several cases, as I have mentioned, above with the newer type equip-

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ment since the first of November, and they have all improved while under treatment and in no instance has there been any severe sickness. I attribute this to the fact that we were able to deliver to the body the maximum amount of highly filtrated radiation in the minimum length of time. We do not want to appear too enthusiastic but the results obtained so far in a palliative way are so gratifying that we have hopes of adding greatly to the comfort and prolongation of the remainder of the lives of these hopeless individuals.

It is the consensus of opinion among the men of largest experience that the maximum results in the treatment of malignancy with physical agents (Radium & X-Ray) is attained only by adequate irradiation and in terms of X-Radiation this means that the local lesion and its lymphatics drainage area must be kept saturated with X-Radiation to point of maximum skin tolerance. This is best obtained thru the short wave legnth waves produced by the modern 200 kv machines using 1-2 m.m. of copper filter operative at 25 to 30 m.a. Two to five skin unit doses can be given over a period of 20 days without material damage to the skin. Five to seven such series are considered adequate during the first year's treatment.

To summarize our plan of treatment of cancer in general, I will briefly mention cancers as to type and location and the selection of the measures that in our experience have proved most effective. Skin cancers in general both definite epitheliomas and rodent ulcers have responded most satisfactorily to Radium. A small percentage have been resistant to Radium but have responded to X-Rays. A larger number have not healed under X-Rays and have responded to Radium. In all growths other than simple epitheliomas, it is our routine to block the lymphatic drainage with X-Rays. Certain types of bulky growths of the skin such as melnomas are widely removed with the cautery knife and Radium applied immediately.

Cancers of the lip, tongue, buccal mucous membrane, gums, tonsils and throat first receive blocking doses of X-Ray over the whole lymphative drainage area of the neck.

Following this the lesion is treated by interstitial irradiation with gold radon seeds. The area of the lesion is determined as accurately as possible and allowing 1 m.c. gold radon seed to approximately 1 square c.m. of growth, these seeds are implanted in the periphery of the growth at various depths. We do this for the reason that it has been definitely established that adequate irradiation of the periphery of a growth will cause complete regression of the central area. In some cases, depending on the size, it is necessary to implant a few seeds in the central zone.

The treatment of metastatic nodes in the cervical chains is governed by several factors. Where the primary growth is fully differentiated and therefore relatively radio-resistant, the treatment is with x-radiation and block dissection of that side of the neck. On the other hand where the primary growth is of the anaplastic grouping our dependence lies in external irradiation with X-Rays and implantation of radium needles or radon seeds as the situation may warrant. In some cases ligation of the external carotid artery and external jugular vein with removal of the sterno-mastoid muscle are advisable. In these cases as well as cancers of the sinuses, roof of the mouth, etc., ligation of the external carotid artery alone is beneficial in starving out the growth and controlling hemorrhage.

Cancer of the larynx presents a problem, the treatment of which is still under trial. A high percentage of permanent good results is obtained by a well executed larynjectomy where the growth is intrinsic and has not spread beyond the area that can be removed intoto. Early cancer of the larynx manifests itself only by continued hoarseness and these cases do not receive competent examination as soon as they should. In doubtful cases where it is uncertain whether the growth has progressed beyond the intrinsic stage treatment with X-Rays followed by implantation of Radon seeds in the growth thru a thyrotomy opening bids fair to supersede larynjectomy. This is accomplished by the administration of 4-6 skin erythema doses of x-radiation followed 3 weeks later by thyrotomy and implantation of approximately 15 m.c. of Radon seeds. In a recent personal communication, Quick stated to me that in 2 series of cancer of the larynx, one treated by larynjectomy and the other by adequate irradiation, the latter plan of treatment would be productive of best results. The work of Coutard of Paris has attracted world wide attention on account of the results of his method of treatment of laryngeal cancer and cancer of the throat with enormous doses of deep therapy X-Rays. No doubt the next 2 or 3 years will bring some valuable advances along this line.

Cancer of the **Breast**:

The results of any plan of treatment of this condition in general hospitals is highly disappointing. This should not be so as the early lump is visible and palpable and curable in this stage. The average surgeon is thoroughly competent to remove a breast radically and for this reason a great many breasts are unjustifyable removed. It is somewhat like locking the stable after the horse is gone to remove a breast after mediastinal metastases have occurred. A situation that shows what can be done by education and cooperation and which we should all endeavor to reproduce is that related by Bloodgood in his writings on border line tumors of the breast. He states that during the decade prior to 1900 the great majority of breast tumors applying for treatment at Holstead's Clinic were clinically malignant. A reversal of this situation was revealed by the laboratory reports of Johns Hopkins' University from 1926 to 1931 in which it was brought out that the majority of malignant tumors of the breast had to be diagnosed microscopically. Lack of cooperation is responsible for poor results in this location rather than faulty methods of treatment. Our general plan of dealing with cancer of the breast where the lesion is clinically doubtful, is to subject all cases of lump in the breast to a combined fluroscopic and radiographic examination of the chest, particularly the mediastinum.

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Where the findings are negative and there are no clinical evidence of metastases the lump is widely removed with the cautery knife and subjected to frozzen section examination. If malignancy is found radical amputation of the breast with the cautery knife, with dissection of the axilla and removal of the pectoral muscles, is carried out. This is followed as soon as possible with deep X-Ray therapy. The operability of the clinically malignant tumor is determined by combined fluroscopic and radiographic examination, extend and fixation of the tumor and extent of axillary metastases. If the case is considered operable preoperative X-Ray treatment is carried out and radical amputation done, followed by post operative X-Radiation.

The inoperable case is carried along with palliative X-Ray treatment. Some of these cases show very gratifying response. Frequently the inoperable case is rendered operable by the use of adequate x-radiation. By this it is meant that the improvement in the patient's general condition and the regression of the growth will permit palliative surgery.

One of the foremost questions in the minds of a number of men of great experience is "will irradiation supersede surgery in the treatment of all breast cancers?" Time will not permit full discussion of this question here. There are several facts I will call to your serious consideration. Rather uniform statistics from large clinics shows a 70 to 75 percent curability on the 3 to 5 year basis by surgical treatment alone. However, Postman reports that 95 percent of all patients coming to operation have axillary metastases. He also states from a study of a large series of statistics that the average length of life of breast cancer, when untreated, is 34 months. The average curability following, surgery, of the operable group is 38.6 percent for the 3 year period and 28.8 percent for the 5 year period. Sampson Handley states that 70 percent of all patients coming to operation have intra-thoracic involvement. Dean Lewis concludes after a study of the results of operations on breast cancer at Johns Hopkins from 1889 to 1931 that although the results for the first 5 years are encouraging nearly all die of cancer ultimately.

According to Quick there is evidence at hand to show that of all patients coming to operation at least 70 percent are dead from extension of the disease at the end of 5 years and that the majority of the remaining 30 per cent die of cancer ultimately.

Sufficient time and experience has not accumulated yet to place a proper evaluation on the results of improved irradiation treatment of primary operable cancer of the breast.

However, there is a mounting weight of evidence to show that operative results have been improved by the use of irradiation particularly preoperative irradiation. This is accomplished by external irradiation with X-Rays and implantation with Radium element or radon seeds. Suffice it is to state that at the present time certain groups of breast cancer particularly in the aged and in poor surgical risks are entitled to this form of treatment. In recurrence of the skin our best results have been obtained by treatment with Radium in the form of either needles or Radon seeds.

Cancer of the Stomach:

In this location cancer appears to defy our combative efforts more successfully than in most regions. It is estimated that one third of all cancer deaths are from cancer of the stomach. Only 34 of diagnosed and treated cases of stomach cancer show any lasting curative results. Better results must therefore come from prophylactic measures such as periodic examination and removal of predisposing conditions. With this end in view European surgeons are using radical methods in dealing with gastric ulcer. The study of gastric ulcer as reported in the literature shows that it is extremely difficult to determine when ulcer becomes cancer and it would appear that the correct attitude toward gastric ulcer is that it is always potentially malignant.

Cancer of the Intestines:

The small intestine is so seldom the site of malignant growth that very little is to be said about it.

The large intestine is frequently invaded by cancerous growth, the usual sites being the cecum and ascending colon, hepatic flexure and transverse colon and the sigmoid flexure and recto-sigmoid. The tendency of cancerous growth in the large intestine is not to metastasize early and surgery offers considerable relief provided a reasonably early diagnosis is made. Vague abdominal discomfort and sudden bowel habits are the warning signs that should receive thorough investigation. Surgical removal of the growth by the Mickulica method or its modifications is the method of choice.

Cancer of the Recto-sigmoid and Rectum is one of the grave and formidable problems that has yielded somewhat to the improved methods of attack. The work of Miles, Coffey, D. F. Jones, Lockhart-Mummery, Rankin, Lahey and others in the study of cancer in this location and perfection of the abdomino-perineal operation has been oustanding and offers permanent relief to a good percentage of this group of patients. As a curative measure treatment by irradiation on the whole has not been satisfactory, however, there are some who claim favorable results. In the inoperable case considerable comfort and prolongation of life can be offered by colostomy and deep X-Ray therapy.

Cancer of the Uterus:

The literature of the past 15 years has been replete with articles on cancer of the uterus particularly cancer of the cervix.

There have been many differences of opinion and statistical facts offered as to the relative value of surgery versus Radium in the treatment of cervical cancer. The question of operability has been discussed at length and the suggestion has been made that the word operability be discarded and the word curability by surgical means be substituted. The weight of evidence has been in favor of treatment with Radium and in practically all of the leading clinics and in the hands of authorities cervical cancer is no longer treated surgically. It has been our custom for the past 15 years to treat all cervical cancers with Radium and X-Ray combined and in a series of some 50 cases

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only 2 hysterectomies have been done. The results have been by far more satisfactory than in the series of the previous 10 years treated surgically.

The plan of treatment has consisted of application of Radium to the cervix followed by deep X-Ray therapy. The technique used in the Radium treatment has followed closely the Janeway-Bailey technique. The Stockholm technique was tried out and the Janeway-Bailey technique again adhered too. A closer follow up of our cases during the past 5 years has shown us that a higher percentage of good results can be obtained by follow up treatments with deep X-Ray therapy. By this I mean that in the group 2 and 3 cases where the disease has extended beyond the immediate confines of the cervix and there is complete healing and regression of the local lesion, a certain percentage will show metastatic recurrences at the end of 2-3 years and it is in this group that considerable salvage is to be had by repeated series of deep X-Ray therapy at stated intrevals.

Cancer of the fundus of the uterus is relatively rare when compared with cancer of the cervix. It's incidence is frequent enough, however, to cause one to always be on the look out for it.

Diagnostic curettment with frozen section examination of the scrapings should be carried out in every case of uterine bleeding where the cause of the bleeding is in the least doubtful. The treatment of fundal carcinoma is surgical, supported by irradiation. It has been our plan of management for a good many years to employ diagnostic curettment followed immediately by intra-uterine irradiation with Radium, pan-hysterectomy in 10 days followed as soon as feasible with deep X-Ray therapy treatment. On account of the rather meager lymphatic drainage of the fundus and therefore lateness of metastases the results of present day treatment of fundal cancer are reasonably satisfactory.

Cancer of the bladder presents the same opportunity of cure as in cancer of other organs. As distinguished from cancer of the stomach symptoms of the presence of a new growth in the bladder manifest themselves rather early and when early diagnosis is made a good percentage of cures can be affected either by implantation of Radon seeds or by resection or both.

Cancer of the Prostate gland is usually a rather hopeless condition when diagnosed, however, palliative measures with irradiation offer some relief of symptoms and prolongation of life.

Sarcomata:

This survey up to this point has dealt entirely with malignancy of epithelial origin, namely carcinoma which is by the greatest majority more common. Malignant tumors of connective tissue origin happily do not occur with any great frequency, and this is the most fortunate as they, as a rule, defy our present methods of attack. There is one notable exception to which I wish to refer and that is the Ewing Bone tumor which is highly sensitive to irradiation and good results are obtained by deep X-Ray therapy.

Results and Expectancy:

In the light of our present day knowledge of cancer and our means of combating the disease what can we as medical men offer these patients? The story can be summed up in a few words. 80 percent of early cancer in general can be cured. Suffering can be alleviated and life prolonged in the more advanced cases by the improved modern methods of treatment.

Cancer*

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Cancer research has for centuries occupied a large share of the resources of medicine. Somewhat like syphilis which is spoken of even in ancient Biblical times, the spirochete standing in a direct specific causal relationship to this disease was not discovered until 1905. by Schaudinn.

There is probably no human problem which has been pursued more widely and. on the whole more intelligently, and certainly none which has aroused so much public interest, as the cancer problem. The idea of endeavoring to know the exact nature of cancer appeals irresistibly to the layman, as well as to the scientific observer, the research worker, and the propagandist.

There is an established opinion in the minds of the laymen that the established standards and theories of our authorities on cancer research have put us on the wrong track, and that they have never given a satisfactory explanation as to what cancer really is.

Cancer statistics through the years and at present are a dismal and serious indictment of the failure of modern efforts to check the ravages of this dreadful disease and to offer to the public and professional mind a clearer interpretation and understanding of the true nature of this formidable condition.

I am of the opinion that cancer will eventually become known as the "captain of the men of death," Tuberculosis ranked first, pneumonia second; and now heart disease has taken a step forward, and claims to be the "captain of the men of death," more particularly in people past middle life. Furthermore, heart disease, especially angina pectoris, has become known as the "doctor's disease," so designated last June by a young graduate in medicine, who was taking the State Board Examination, in answering a question propounded to him in physical diagnosis by me on account of the frightful morbidity and mortality among the medical profession in late years.

The trend toward a higher death rate in cancer is mounting higher and higher in every direction, in spite of the vast amount of laboratory research, on the one hand, and cancer propaganda on the other.

We must consider that probably one in every ten deaths is due to cancer, and that cancer mortality is steadily increasing. Cancer has always been considered by ancient medical authorities as a constitutional disease. Does it mean anything when we find the blood chemistry of the cancer patient changing with a persistent loss of flesh; when we note the potassium salts running low even to disappearance? If cancer were local and removable, no recurrence would take place. It is certain that cancer is not contagious, because there is no case on record where the disease has been contracted from a patient by a physician, a nurse, or an attendant.

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*Discussed before North East 13 Counties Medical Society at Pontotoc, Miss., March 20, 1934.

I am of the opinion that the cause of cancer is in the cancer, and that the same etiologic factor is in the metastases. I am further of the opinion that cancer metastasizes chiefly through the lymphatic channels. This is borne out by the slow metastases in rectal cancer, due to the poor lymphatic supply, and the frightful and rapid metastasis in regions richly supplied with lymph channels.

I am strongly inclined to accept the microbic or parasitic theory in the cause of cancer.

It does not seem difficult to explain the ability of cancer cells to metastasize, survive, and multiply in new areas. While the cells of benign tumors have none of these properties, the phenomena of tumor metastasis show that the formation of secondary growth depends upon the transportation of the malignant cell to a new site. The daughter nodules are seen to develop from these transported cells, reproducing the identical type of tissue which makes up the original tumor mass. It seems clear and logical that in case of cancer metastasis, the invading cells may be opposed for a time by the new tissue areas which have met with malignant encroachment. There is abundance of evidence of microbic tissue selectiveness which results in abnormal cell division.

Some of the most significant work of late, in connection with the etiology of cancer, is that of Carrel with the filtered extract of the McFaul "tar tumor." This most careful investigator claims that the cell-free extract of tar sarcoma will cause the development of this malignant growth when injected into the normal living host. He also claims that the extract produces striking transformation of normally growing mesothelial tissues in vitro. Carrel's results are far-reaching in their significance, because they in no manner support the infectious theory held by some. The Rous sarcoma is our best example of a likely parasitic origin for tumors. A satisfactory explanation has never been offered as to why cancer develops chiefly in people past middle life; however, sarcomas of the kidney and other organs have not infrequently been observed in infancy and childhood.

It is interesting to know that all neoplasias are structurally and functionally atypical, and the question would naturally arise—how have they come by these peculiar properties? I do not think that it has ever been definitely proved that mouse, or tar cancer, is identical with human cancer as we generally observe it. It is also reasonable to assume that if there was only ONE specific cause of cancer, all cancers would no doubt be alike in their histologic make-up. However, they are not. Carcinoma is different to sarcoma. It is hard to explain why benign growths that have existed for several decades, such as moles, warts, scars, etc., suddenly become angry looking, change in color, and begin assuming all of the formidable aspects of a malignant growth, and more particularly if they have been subjected to frequent and continued irritation.

Bloodgood says that cancer never starts as cancer. We know of pitch-worker's cancers, chimney sweep's cancer, mineral oil cancers, tar cancers, and so-called sun cancers; of x-ray cancers, as well as radium cancers and bladder cancers, which are so frequent in dye workers; of paraffin cancers and a host of others.

In past years before the Pure Food and Drug Act was enacted, many chemicals to which people are exposed were thought to contribute to cancer formation. Formerly, sulphites were mixed with beverages and were used by butchers to keep the meat free from taint. Chilled meat in car loads and shiploads was fumed with paraldehyde, a very injurious chemical agent. Butter, cream, margarin, and bacon products contained boric acid or borax; apricots, canned fruits, and raisins were bleached with sulphuric acid. Gelatine was sulphurized. Preserved peas, beans, and spinach contained copper used for coloring and beautifying. Temperance beverages, such as ginger, beer, lime juice, and the like frequently contained salicylic acid or benzoic acid, often as much as seven grains to the pint. Flour was bleached with nitrous gases, and rice beautified by french chalk, which contained arsenic. Article canned in tin containers dissolve off some of the metal, depending on the acidity of the article. Acid fruits, such as tomatoes and rhubarb, contain large quantities of this acid. Tin is a well-known poison when taken into the body. Aluminum hydroxide, which is distinctly poisonous, is dissolved off cooking vessels. Taking into consideration the above mentioned chemical agents that may stand in a causal relationship to cancer, it does not offer a satisfactory explanation as to why children and young adults are not within the cancer age, unless it requires years of slow and continued intoxication to bring about these phenomena of cancer, which are observed past middle age.

It is of further interest to note the incidence and distribution of cancer in lower animals. It is a fact, however, that it is extremely rare to find cancer in animals killed for food in slaughter houses, where they are submitted for inspection. Even up to the present time, very few cancers have been reported in the sheep and pig (herbivorous animals.) Trotter, Chief Veterinary Inspector for the Glasgow Corporation, stated that 62,955 cattle were killed in 1902, and only 27 carcasses were destroyed, owing to the presence of malignant new growths. This gives a proporation of one case of cancer in 2500 cattle.

In man, cancer is relatively infrequent when we consider the population.

In referenre to mouse cancer, Greenwood, in studying the normal mortality of mice, found the average length of life was 636 days. Cancer in mice practically never occurs before the age of 6 months. In birds, a large number of malignant new growths have been observed.

In summing up, it may be well to quote from The Diplomate, published by the Natural Board of of Medical Examiners, February, 1934:

(1) "A reducing substance was discovered in cancer tissue by Dr. Leslie J. Harris, of Cambridge, England, Nutritional Laboratory, significance of the discovery lying in the fact that increase of reducing action is one of the most important characteristics of cancer tissue".

(2) "A substance capable of inhibiting the growth of certain forms of cancer cells has been obtained from chicken tumor extracts and from some normal tissues (placenta and embryo skin) was repored by Dr. J. B. Murphy. Rockefeller Institute".

(3) "Good results of treatment of certain can-

cerous disease with continous low-voltage doses of X-rays over the entire body was reported by Drs. Lloyd F. Craver and William S. MacComb, Memorial Hospital, New York City".

(4) "Cancer treatment by adjusting the content of various minerals in the blood is not justified on the basis of present knowledge. Studies on the role of sodium, potassium, calcium, and magnesium in cancer, made by Dr. M. J. Sheer, U. S. Public health Service, at Harvard medical school, showed."

(5) "Results of treatment of bone sarccma by colloidal arsenic were reported by Dr. A. C. Hendrick and E. F. Burton, of Toronto."

(6) "An 800,000 volt x-ray machine, the most powerful ever put to practical use, was installed at Mercy Hospital, Chicago, for the treatment of cancer."

(7) "Liability to cancer as such, is not inherited; length of life and susceptibility to certain irritants are the only hereditary factors that can influence the development of cancer, studies of Drs. M. R. Curtis, W. F. Dunning, and J. D. Bullock of Columbia University, were reported to have shown."

(8) "The difference between cancer susceptibility and cancer insusceptibility involves one gene. Maud Slye of the Sprague Memorial Institute and the University of Chicago reported."

(9) "The cancer-producing constituent of coal tar was fuond to be 1.2 benzpyrene by Drs. J. W. Cook, I. Hieger, and C. Hewett of the London Cancer Hospital (free) Research Institute.

N. B. In the preparation of this discussion I have consulted many reprints and have at times quoted them verbatim.

Etiology, Histology and Pathology of Cancer

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One of the first questions we might ask ourselves is what is cancer. There are probably many definitions of cancer, but the one I believe applies to most all blastomas is that a tumor is an autonomous new growth of tissue, that is a tissue having independent function. When we speak of cancer we of course mean a malignant tumor. The nature of the growth is different from that of normal tissue and also from inflammatory hyperplasia. Most tumors show a progressive growth which continues until death unless removed by operation or treatment, although there are instances of regression of a tumor with all the appearance of a complete cure without treatment.

The etiology of cancer is still in the stage of theory. There is no one theory that will apply to all cancers. Some apply to one type, some to another. One is the parasitic theory, but this theory has gradually lost ground and today few observers consider it as a possible cause of cancer. There is another theory based on the effects of irritants. In many cases of cancer we get a history of previous chronic irritation or trauma. The experimental cancers produced in mice by injecting different substances into the tissues would come under this theory.

A third theory is that depending on the disturbance of the equilibrium of tissue. Cohnheim's theory that the tumor growths depend upon displacement of embyronic cells which remain dormant until later in life and then begin to develop into a tumor growth. We see a good explanation of this in the teratomas. Ribbert's theory is that the tumor growth depends on cell rests which have become isolated from their normal place in the organism, begin to develop at a later period in life and form a tumor. I want to say a few words on the hereditary origin of cancer. I do not believe that cancer is a hereditary disease, but I do believe hereditary influences play a large part in many cases. There are many reports in literature about cancer families and we cannot get around the fact that there must be some condition in the family that predisposes to cancer.

In taking up this subject of the histopathology of cancer we should be able to study the tissues in all the stages from the beginning to the end, but this is rarely possible in the living person. In many conditions we can begin to study in what we call the precancer stage of tumors. From studies of this kind it has been found that the, "Processes occasionally followed by a neoplastic growth are observed in syphilitic leukoplakia, tuberculosis, Hodgkin's granuloma, chronic eczema, chronic mastitis, ulcer of the stomach, cirrhosis of the liver, X-ray dermititis, and the chronic processes associated with mechanical, chemical and thermal irritation."

In the precancerous stage, depending on the location, may be found evidence pointing toward beginning cancer. Some cases, especially of the skin, have a period of local erythema which slowly disappears or is followed by cancer. Some cases show loss of elastic tissue, hyaline changes in the collagen or fraying of the edges of the epithelium. Other conditions may show hypertrophy of the epithelium, round cell infiltration, increased vascularity, and edema. Thus the normal tissue which has been subjected to these influences for a long period of time begins to show tumor formation which is chiefly, but sometimes exclusively, from the original cells involved in the process.

While it may be possible to diagnose many chronic processes as precancerous there is yet no definite criteria, as in cancer, by which we can say that a certain tissue is precancerous.

Pathologically a tumor is malignant only when it possesses the power to grow rapidly, infiltrate, and metastasize. In determining the malignancy of a tumor, which may be designated as one plus, two plus, three plus, or four plus, it is necessary to take into consideration the general picture or features of the microscopic section.

We must consider the general character of the tissue, whether the cellular tissue, or the connective tissue predominates, the general staining properties of the tissue, whether there is edema, congestion, infiltration into the surrounding zone, the condition of the blood vessels, whether the tissue is mature or embryonal in character, evidence of metastasis and mitosis. Next we study the stroma, whether mature or embryonal in character, and whether very fibrous or more cellular.

We also look for signs of degeneration as necrosis, hyaline, amyloid, colloid, mucoid, and also pigmentation and calcification.

Tumor cells will show the features of anaplasia, loss of form and polarity, variations in size, shape and standing properties, neuclear hyperchromatism, multiform nuclei, and atypical mitosis. These features are not found in conditions as inflammatory hyperplasia or chronic inflammation although in many chronic and inflammatory conditions we do find mitotic figures, mostly of the typical type.

We often find an abundance of mitotic figures in the most malignant cancers, but this is not always the case. While abundant mitosis is usually found in rapidly growing tumors it does not always mean that it is the most malignant. The most malignant tumors are those in which the cells more closely approach the embryonic type. In many cancers we find an inflammatory condition associated with the neoplasm. Many writers believe this is a reaction set up by the host to combat the spread of the cancer growth and it probably has a great deal to do with the cases of regression and disappearance of some neoplasms.

Discussion—Dr. J. Rice Williams

I believe that cancer is a cell condition—an imbalance between cell stimulation and inhibition. It may more properly be called a condition rather than a disease. In every person there is a building up and a tearing down of the cells of the body. It is generally believed that this is completed in about seven years and that we have a new body in that time. Something in our make-up regulates this building up and tearing down process. I call it endocrine for want of a better name. Observation teaches us that we are not all equally balanced in this building up and tearing down. A slight irritation, or cut, on one person heals promptly while the same injury on another develops an unsightly keloid, and even cancer.

I believe that our efforts should be directed more to discovering just how the proper balance can be secured between cell stimulation and inhibition.

Any thing else that we do is merely palliative.

Cancer always begins as a local condidion. If you have a cancer on the end of your finger and you amputate above all cancer cells you are just as free from cancer as if you had never had it. But you leave the cell imbalance and a scar that may be the seat of a new manifestation of cancer, not because there was once a cancer at that place but because scar tissue is more liable to be affected than other tissue for the reason that the scar tissue is less balanced in cell stimulation and inhibition than normal tissue. If another finger should be amputated at the same time that the one was amputated for the cancer there is as much probability of a cancer developing at that site as there is on the stump of the cancer operation.

This imbalance between cell stimulation and inhibition may be either congenital or acquired. Some people are immune to cancer, others are very susceptible to it. No matter what you do to the one he will not develop cancer, regardless of what we do for the other he will develop cancer. If we ever learn how to establish the balance between cell stimulation and inhibition, the cancer problem will be solved.

Discussion—Dr. R. A. Hennessee, Memphis, Tenn.

The responsibility comes to us even more acutely in the urinary tract to protect the patient from suffering and an early death. I think it proper to remind you again that blood in the urine is an indication of cancer in 57 percent of cases. In renal conditions the appearance of blood is somewhat delayed.

I was impressed with the fact brought out in the foregoing discussions that an early diagnosis is imperative, and I know of no other place in which it is more imperative than in the urinary tract. The renal tumor, like the breast tumor, is almost inoperable when discovered. The only indication is blood in the urine, and that in only 47 percent of cases; pain in only about 30 percent, and a mass in the groin in 12 percent. But remember the significance of blood in the urine.

Heat is a big factor in the development of cancer, it seems. Coolies carring hot baskets of rice on their abdomens have been observed to develop cancer.

In tumors of the bladder, the early symptom is hematuria; the late, limited capacity and frequency.

20 percent of all enlarged or obstructing prostates are carcinomas. The patients can be relieved by transvesical heat, but the most important thing to remember is, the earlier the application the more the success.

(These are only a few of the high points in Dr. Hennessey's discussion.—Ed.)

Dear Dr. Anderson:

In compliance with your request that I let you have a synopsis of my own conclusions drawn from what I have seen, heard and read about "cancer," I will say, as I stated in Pontotoc, I have no desire to pose as a teacher on this subject. But rather am I a seeker after knowledge and information touching this most important malady and greatest of unsolved problems. But in the outset, please permit me to express my personal appreciation of the interest that was manifested by the doctors who were present at this meeting, and especially do I appreciate the presence and help given by the eminent men whom I had invited to come from a distance. In my introduction of the subject I purposely refrained from expressing any opinions of my own—prefering to ask questions that I feel are of most vital importance in understanding and treating cancer. I purposely omitted any reference to diagnosis and treatment. So much has been spoken and written along these lines that it seems to me there is but little excuse for failure to recognize cancer promptly, provided the doctor keeps the subject ever before him. Train loads of printed matter have been distributed among doctors and laymen on the subject of recognition and control. Thousands and thousands of speeches have been delivered before medical and lay audiences along these lines, and yet the incidence and mortality seem to be on the increase. One is reminded of Mark Twain's comment that much was **said** about the weather but very little **done** about it. The profession and the public have been made thoroughly cancer conscious but, for the life of me, I can not see any benefits that have resulted to the public. Of course there has been a rich harvest of fees to the surgeon and the radiologist but "Johnie Q. Public" pays the bills with but little return for his pains. My honest conviction is that nothing can ever be done to control cancer until we know definitely what cancer is and what is its cause. Once we had soldiers stand guard with army rifles to defend the populace against mosquito borne diseases. However, I have never known hands and feet that showed the dermitosis attending pellagra to be amputated nor have I heard that the beginning marks of leprosy were to be dug or burned out. I am wondering if it is true, as has been claimed by many, that cancer is a constitutional disease with local manifestations, if it is more rational to treat cancer, as it has been treated for ages. But it will be said that the evident cures (so called) resulting from surgery and radiation justify the proceedure. Far from me to say to the contrary until I am shown a better plan. However, I am not satisfied to lie supinely on my back while there is yet room for doubt as to the scientific basis for these proceedures. It appears to me that there was much in the suggestion made by one of the speakers at Pontotoc, that we may be shooting too high and inclined to try to reach the end of the rainbow to dig for gold, while rich deposits of gold might be buried under our very feet. By this I mean to say, may it not be true that we are waiting for some big man in some big city or under the employ of some great foundation to do our thinking for us? These same big men and big institutions were leading us far afield as touching the control and cure of pellagra until **one** man with a mind and a vision came to Mississippi and begged for permission to try out his theory on a few lowly convicts. (Pardon me for saying that I happened to be a member of the State Board of Health under whose auspices this was done. But I claim none of the honor, I simply consented and did not scoff.) Suppose Jenner had waited for the big men to figure out the means of control for smallpox. Some brilliant thinkers in the profession, think that a toxine is developed in a faulty process of food assimilaiton that enters into the causation of cancer—that this toxine is an irritant that works in combination with some local irritation and the two, together, are responsible for the local manifestation. I wonder if this may be true. Some go so far as to say that it—this systemic toxine—is derived from protien foods—I wonder how they know this?

Again it has been claimed that mitosis of cells and all agree, (I think) that this is the manner in which cancer tumors grow, takes place, only when the pH has shifted, decidedly, to the alkaline side—that there is a strong tendency to achphydria in all cancer cases—that this is especially noticeable in stomach cancer. If this is true, may it not be that this biochemical upset has much to do with the advent and progress of cancer in any part of the body? May it not, also be true that correction of this fault might cure, or arrest the progress of, the growth and its fearful ravages upon the patient's vitality? How do we account for metastases before and after surgery and radiation? May it not be due to the fact that the condition of alkalosis has not been changed, thus leaving the constitutional irritant uncared for so that it only remains for other local irritations to be followed by other cancerous outbreaks? It has been claimed, further that the traumatism attending surgery and radiation sets up a beneficial leucocytosis that has much to do with the arrest of progress. Again it seems to be a fact that irradiation produces an acidity of near by tissues that completely arrests progress for a time. Since this, apparently, is true we see why the radiologist has his patient return for additional treatment. Now we come to a delicate hypothesis, namely, the suggestion that some have made that the, so called, cures or arrests that follow surgery may be credited to acidosis that is developed by the use of chloroform or ether narcosis (Spinal aneesthesia, also, produces a decided acidosis or shift to the acid side). Then, if this hypothesis is true, may it not be that frequent, or at least repeated, narcoses by these agents might give us the same results as repeated radiation?

In the same perfunctory way we might try to follow some leads along endocrine lines that, possibly, have special bearing on the advent and progress of malignant conditions. But I do not care to burden your space with more at present.

You may, if you care to do so, print, as an addendum, the questionaire that I used as a basis for the discussions at Pontotoc. It follows: What is cancer? What is its etiology and real pathology? Is it a local condition, strictly, or is it constitutional with local manifestations? What biochemical processes, if any, enter into its appearance and progress? Has it an endocrine phase? Can it be cured—and if so, how may we know that a cure has been made? How much time must elapse before we may announce a cure? Are there spontaneous cures, and if so how may we differentiate between spontaneous cures and those that result from therapeutic measures? What familiar traits enter into or influence its appearance and development?

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The patient was seemingly very sick. A friend asked the attending physician: "Please tell me something of the nature of his illness, and what the disease is called."

The physician answered: "He is suffering from clothing disease."

The friend: "What is that, doctor?"

The doctor: "He had a coat on his tongue and his breath came in short pants."

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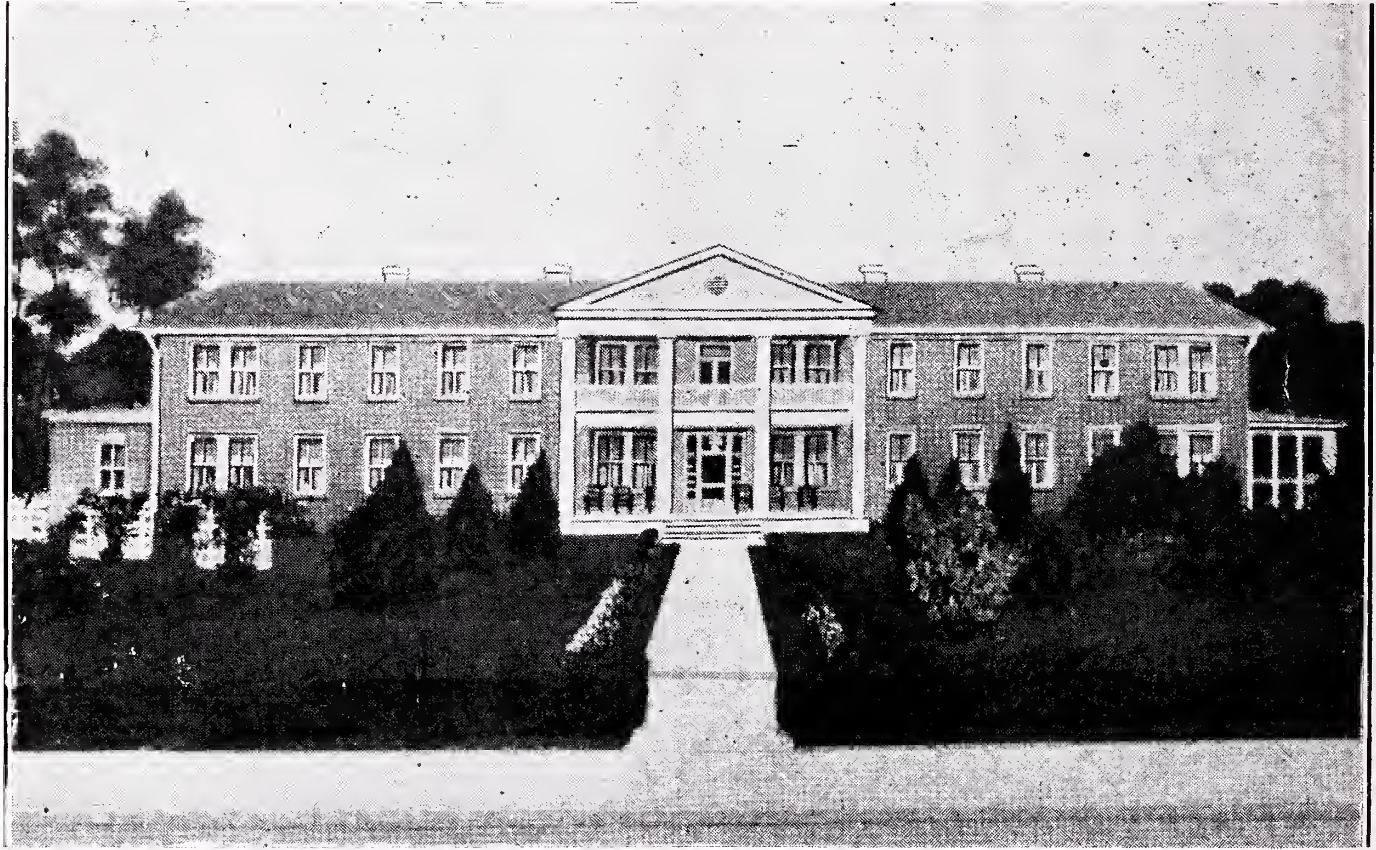

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VOL. 11 BOONEVILLE, MISSISSIPPI, MAY, 1934 NO. 12

L'ENVOI

When earth's last picture is painted and the tubes are
twisted and dried,
When the oldest colors have faded, and the youngest
critic has died,
We shall rest, and, faith, we shall need it—lie down
for an aeon or two,
Till the Masters of All Good Workmen shall set us to
work anew!

And those that were good will be happy; they shall
sit in a golden chair;
They shall splash at a ten-league canvas with brushes
of comets' hair;
They shall find real saints to draw from—Magdalene,
Peter, and Paul;
They shall work for an age at a sitting and never be
tired at all!

And only the Master shall praise us, and only the
Master shall blame;
And no one shall work for money, and no one shall
work for fame;
But each for the joy of the working, and each, in his
separate star,
Shall draw the Thing as he sees It for the God of
Things as They Are!

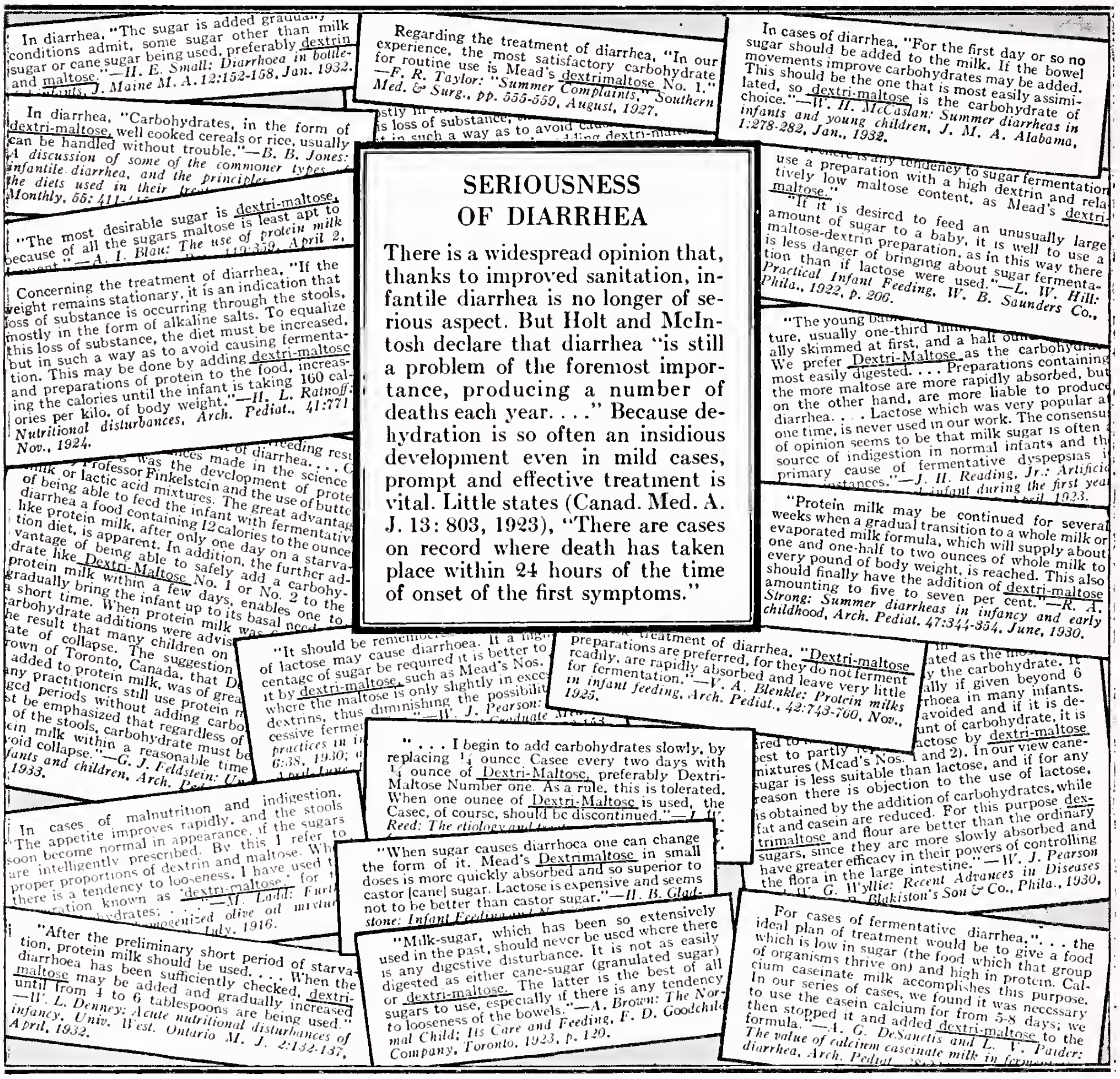
—Rudyard Kipling

DIARRHEA

"the commonest ailment of infants in the summer months"

(HOLT AND McINTOSH: HOLT'S DISEASES OF INFANCY AND CHILDHOOD, 1933)

One of the outstanding features of DEXTRI-MALTOSE is that it is almost unanimously preferred as the carbohydrate in the management of infantile diarrhea.



SERIOUSNESS OF DIARRHEA

There is a widespread opinion that, thanks to improved sanitation, infantile diarrhea is no longer of serious aspect. But Holt and McIntosh declare that diarrhea "is still a problem of the foremost importance, producing a number of deaths each year. . . ." Because dehydration is so often an insidious development even in mild cases, prompt and effective treatment is vital. Little states (Canad. Med. A. J. 13: 803, 1923), "There are cases on record where death has taken place within 24 hours of the time of onset of the first symptoms."

In diarrhea, "The sugar is added gradually conditions admit, some sugar other than milk sugar or cane sugar being used, preferably dextrin and maltose."—*H. E. Small: Diarrhoea in bottle-fed infants, J. Maine M. A. 12:152-158, Jan. 1932.*

In diarrhea, "Carbohydrates, in the form of dextri-maltose, well cooked cereals or rice, usually can be handled without trouble."—*B. B. Jones: A discussion of some of the commoner types of infantile diarrhea, and the principles the diets used in their treat Monthly, 55: 411-*

"The most desirable sugar is dextri-maltose, because of all the sugars maltose is least apt to ferment."—*A. I. Blau: The use of protein milk 119:359, April 2,*

Concerning the treatment of diarrhea, "If the weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, but in such a way as to avoid causing fermentation. This may be done by adding dextri-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo. of body weight."—*H. L. Ratnoff: Nutritional disturbances, Arch. Pediat., 41:771 Nov., 1924.*

of diarrhea. . . . was the development in the science Professor Finkelstein and the use of milk or lactic acid mixtures. The great advantage of being able to feed the infant with fermentative diarrhea a food containing 12 calories to the ounce like protein milk, after only one day on a starvation diet, is apparent. In addition, the further advantage of being able to safely add a carbohydrate like Dextri-Maltose No. 1 or No. 2 to the protein milk within a few days, enables one to gradually bring the infant up to its basal need a short time. When protein milk was carbohydrate additions were advis the result that many children on state of collapse. The suggestion own of Toronto, Canada, that D added to protein milk, was of grea any practitioners still use protein m ged periods without adding carbo st be emphasized that regardless of of the stools, carbohydrate must be ein milk within a reasonable time void collapse."—*G. J. Feldstein: U fants and children, Arch. Pe 1933.*

In cases of malnutrition and indigestion. "The appetite improves rapidly, and the stools soon become normal in appearance, if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. Wh there is a tendency to looseness. I have used t ration known as 'dextri-maltose,' for hydrates; . . ."—*M. Ladd: Furt homogenized olive oil mixtu July, 1916.*

"After the preliminary short period of starvation, protein milk should be used. . . . When the diarrhoea has been sufficiently checked, dextri-maltose may be added and gradually increased until from 4 to 6 tablespoons are being used."—*W. L. Denney: Acute nutritional disturbances of infancy. Univ. West. Ontario M. J. 2:132-137, April, 1932.*

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrimaltose No. 1."—*F. R. Taylor: "Summer Complaints," Southern Med. & Surg., pp. 555-559, August, 1927.*

"It should be remembered of lactose may cause diarrhoea. If a high percentage of sugar be required it is better to it by dextri-maltose, such as Mead's Nos. where the maltose is only slightly in excess dextrins, thus diminishing the possibility cessive ferment."—*W. J. Pearson: practices in in 6:38, 1930;*

". . . I begin to add carbohydrates slowly, by replacing ¼ ounce Casec every two days with ¼ ounce of Dextri-Maltose, preferably Dextri-Maltose Number one. As a rule, this is tolerated. When one ounce of Dextri-Maltose is used, the Casec, of course, should be discontinued."—*J. W. Reed: The etiology and treat*

"When sugar causes diarrhoea one can change the form of it. Mead's Dextrimaltose in small doses is more quickly absorbed and so superior to castor [cane] sugar. Lactose is expensive and seems not to be better than castor sugar."—*H. B. Gladstone: Infant Feeding and N*

"Milk-sugar, which has been so extensively used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextri-maltose. The latter is the best of all sugars to use, especially if there is any tendency to looseness of the bowels."—*A. Brown: The Normal Child; Its Care and Feeding, F. D. Goodchild Company, Toronto, 1923, p. 120.*

In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextri-maltose is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, J. M. A. Alabama, 1:278-282, Jan., 1932.*

If there is any tendency to sugar fermentation use a preparation with a high dextrin and relatively low maltose content, as Mead's dextri-maltose."

"If it is desired to feed an unusually large amount of sugar to a baby, it is well to use a maltose-dextrin preparation, as in this way there is less danger of bringing about sugar fermentation than if lactose were used."—*L. W. Hill: Practical Infant Feeding, W. B. Saunders Co., Phila., 1922, p. 206.*

"The young babe ture, usually one-third ally skimmed at first, and a half oun We prefer Dextri-Maltose as the carbohydrate most easily digested. . . . Preparations containing the more maltose are more rapidly absorbed, but on the other hand, are more liable to produce diarrhea. . . . Lactose which was very popular at one time, is never used in our work. The consensus of opinion seems to be that milk sugar is often source of indigestion in normal infants and the primary cause of fermentative dyspepsias in instances."—*J. H. Reading, Jr.: Artificial infant during the first year 1923.*

"Protein milk may be continued for several weeks when a gradual transition to a whole milk or evaporated milk formula, which will supply about one and one-half to two ounces of whole milk to every pound of body weight, is reached. This also should finally have the addition of dextri-maltose amounting to five to seven per cent."—*R. A. Strong: Summer diarrheas in infancy and early childhood, Arch. Pediat. 47:344-354, June, 1930.*

treatment of diarrhea. "Dextri-maltose preparations are preferred, for they do not ferment readily, are rapidly absorbed and leave very little for fermentation."—*V. A. Blenkle: Protein milks in infant feeding, Arch. Pediat., 42:743-760, Nov., 1925.*

ated as the mo y the carbohydrate. It ally if given beyond 6 rhoea in many infants. avoided and if it is de- unt of carbohydrate, it is actose by dextri-maltose red to best to partly re 1 and 2). In our view cane-mixtures (Mead's Nos. sugar is less suitable than lactose, and if for any reason there is objection to the use of lactose, is obtained by the addition of carbohydrates, while fat and casein are reduced. For this purpose dextrimaltose and flour are better than the ordinary sugars, since they are more slowly absorbed and have greater efficacy in their powers of controlling the flora in the large intestine."—*W. J. Pearson W. G. Wyllie: Recent Advances in Diseases Blakiston's Son & Co., Phila., 1930.*

For cases of fermentative diarrhea, ". . . the ideal plan of treatment would be to give a food which is low in sugar (the food which that group of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary to use the casein calcium for from 5-8 days; we then stopped it and added dextri-maltose to the formula."—*A. G. DeSanctis and L. V. Parder: The value of calcium caseinate milk in ferm diarrhea, Arch. Pediat.*

Just as DEXTRI-MALTOSE is a *carbohydrate* modifier of choice, so is CASEC (calcium caseinate) an accepted *protein* modifier. Casec is of special value during the summer months (1) for colic and loose green stools in breast-fed infants; (2) in fermentative diarrhea in bottle-fed infants, (3) as a prophylactic against diarrhea in infections.

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The recent session of the legislature appropriated $240,000 for the five state-operated charity hospitals, $125,500 for the private hospitals over the state. The sum of $320,000 was appropriated for the Tubercular Sanatorium. A total of $685,500.00 for the hospitals. For the insane hospital at Jackson the sum of $740,000 was appropriated. For the insane hospital at Meridian the sum of $287,500. For the feeble minded state school $75,000 was appropriated. The sum of $59,400 was appropriated for the blind and $99,000 for the deaf, $14,000 for the King's Daughters Rescue Home, for the Blind Commission $15,000 and for vocational rehabilitation $35,000. In addition to these sums for current support the sum of $982.000 was appropriated for the completion of the new insane hospital at Jackson.

The Mississippi State Hospital Association has done some good work. It has plenty more to do. The medical profession generally speaking does not appreciate the importance of hospitalization for the really sick patient. The laity is far from realizing it. Hospital service must be delivered to the masses at less cost and at the same time hospitals must be placed on a more secure financial footing. National, state and municipal aid augmented by the church and philanthropy must be more liberal with the actual charity. The middle class must fall upon some plan to be able to pay cash for their hospital service. Hospital administration must be made a study. Better service at less cost to the patient must be the goal. The hospitals must have a medium, bulletin or journal, as a means by which ideas may be passed from one to the other.

An annual or semi-annual examination for each person would be a mighty good investment. We drive the car into the garage every few months and have it "looked over" to see if there is anything needed, anything loose or broken or out of fix. Yet we keep driving the human body year after year without any sort of examination, unless something breaks or gets loose or out of order. It is just the old principle of prevention being better than cure. The most important thing in the life of any person is the human body in which he lives. To have it looked over, checked up and may be toned up a little is the best investment that any citizen can make.

The prospects are very good now for the completion of the new hospital for the insane located a few miles east of Jackson. It is said that the plant when completed will be the most modern hospital of its kind in the United States with the possible exception of the one located in New York. The Mississippi institution is built on the cottage plan and consists of 71 buildings. It is a town within itself. It is believed now that the 2600 patients in the old fire-trap in north Jackson will be moved to the new quarters before the end of this year. The new plant was started in 1926.

It is a delight to have Dr. Fenny of Baltimore with us at the state meeting at Natchez. He is a native Mississippian, and Natchez is his old home we believe. Mississippi and the Southern states feel very proud of Dr. Fenny. Truly he has the professional mind, the medical soul and the missionary heart.

It is said that America leads the world in dentistry and dental training and yet it is estimated that only 25 per cent of our people have dental service. This is just pure, down-right neglect. The result is suffering, the useless loss of teeth and sometimes wreck of health.

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Entered as second-class matter, January 18, 1926, at the post-office at Booneville, Miss., under the Act of March 3, 1870.

EDITORIALS

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The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

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The recent session of the legislature appropriated $240,000 for the five state-operated charity hospitals, $125,500 for the private hospitals over the state. The sum of $320,000 was appropriated for the Tubercular Sanatorium. A total of $685,500.00 for the hospitals. For the insane hospital at Jackson the sum of $740,000 was appropriated. For the insane hospital at Meridian the sum of $287,500. For the feeble minded state school $75,000 was appropriated. The sum of $59,400 was appropriated for the blind and $99,000 for the deaf, $14,000 for the King's Daughters Rescue Home, for the Blind Commission $15,000 and for vocational rehabilitation $35,000. In addition to these sums for current support the sum of $982,000 was appropriated for the completion of the new insane hospital at Jackson.

The Mississippi State Hospital Association has done some good work. It has plenty more to do. The medical profession generally speaking does not appreciate the importance of hospitalization for the really sick patient. The laity is far from realizing it. Hospital service must be delivered to the masses at less cost and at the same time hospitals must be placed on a more secure financial footing. National, state and municipal aid augmented by the church and philanthropy must be more liberal with the actual charity. The middle class must fall upon some plan to be able to pay cash for their hospital service. Hospital administration must be made a study. Better service at less cost to the patient must be the goal. The hospitals must have a medium, bulletin or journal, as a means by which ideas may be passed from one to the other.

An annual or semi-annual examination for each person would be a mighty good investment. We drive the car into the garage every few months and have it "looked over" to see if there is anything needed, anything loose or broken or out of fix. Yet we keep driving the human body year after year without any sort of examination, unless something breaks or gets loose or out of order. It is just the old principle of prevention being better than cure. The most important thing in the life of any person is the human body in which he lives. To have it looked over, checked up and may be toned up a little is the best investment that any citizen can make.

The prospects are very good now for the completion of the new hospital for the insane located a few miles east of Jackson. It is said that the plant when completed will be the most modern hospital of its kind in the United States with the possible exception of the one located in New York. The Mississippi institution is built on the cottage plan and consists of 71 buildings. It is a town within itself. It is believed now that the 2600 patients in the old fire-trap in north Jackson will be moved to the new quarters before the end of this year. The new plant was started in 1926.

It is a delight to have Dr. Fenny of Baltimore with us at the state meeting at Natchez. He is a native Mississippian, and Natchez is his old home we believe. Mississippi and the Southern states feel very proud of Dr. Fenny. Truly he has the professional mind, the medical soul and the missionary heart.

It is said that America leads the world in dentistry and dental training and yet it is estimated that only 25 per cent of our people have dental service. This is just pure, down-right neglect. The result is suffering, the useless loss of teeth and sometimes wreck of health.

We deeply appreciate the full page ad from Mead Johnson & Company. This makes the flavor of their products so much better and also indicates their good business judgment and their missionary spirit in helping a journal with a mission.

Eventually you will subscribe for The Mississippi Doctor. Why not now? The price is one dollar for one year, the depression price. Many of its individual papers are worth two dollars.

The average case of acute appendicitis should be diagnosed and operated upon within six hours of the onset. This will be easy when the general practitioner knows his appendix and the laity have a little more education.

If you have not ordered your new Edition of De Lee's obstetrics from W. B. Saunders you should do it at once. A preacher would not think of being without a Bible. This book is the Bible of Obstetrics.

Dr. McGehee of Memphis will have a paper in the June issue that you will want to read, on the subject of "Obstruction."

Fractures, Dislocations and Sprains by Key and Conwell is one of the most practical books for the practitioner we have seen. It is published by the C. V. Mosby Company, St. Louis.

The five state owned charity hospitals are five political footballs to be bounced and played with by every governor who crosses his legs in the executive chair.

You should keep up your group life insurance. You have the advantage of a mighty low rate and the insurance is good. We should have group liability insurance.

We should keep sacred the relation between the physician asd the patient. In the matter of insurance to pay the doctor this should be kept in mind.

The kind and tender touch of the honest and sympathetic surgeon is the major means of the diagnosis of acute appendicitis.

The medical profession has put up a noble fight during the years of the depression.

We hope that you are well pleased with the fine bunch of papers in this issue of the journal.

It now looks like a brighter day for the Ole Miss Medical school. This is as it should be.

For internes and nurses a course in economy should be added in almost every hospital.

The program for the Mississippi State Medical Association looks unusually good. It is your duty to attend. In addition it is worth your while to spend a few days in Natchez, sitting on the bank of the Father of Waters, and really the "daddy" town of Mississippi. Natchez is rich in historic lore of the native American Indian and of the early settlers of our state. This traditional city is attracting new interest at this time on account of the "Natchez Trace." The United States Senate made provision last week for fifty thousand dollars to survey this trace from up in Tennessee to Natchez. It will be the most noted highway in the United States when it is completed, the Natchez Parkway Boulevard. This was a remarkable highway in the early days, best suited to walking and horse back riding. It might have been surveyed by the Buffaloes. It is almost a straight line. It crosses no large bodies of water and it climbs no high grades. It was travelled by our first missionaries and it gave much aid to Andrew Jackson when he flogged the British at New Orleans in the war of 1812. The Natchez Trace is almost sure to become the big broad highway from Washington to the City of Mexico and then on to South America. Don't miss this opportunity to attend the state medical association and invigorate your patriotic lungs with the atmosphere of this city of native tradition, Southern culture, and Mississippi hospitality

Time is the chief surgeon in the successful operation for appendicitis.

Preventive and conservative surgery are now the order of the day.

An unprejudiced mind is the big cross mark of an educated man.

Selfishness destroys the tap root of constructive thought.

It is not all of life to live nor all of the practice of medicine to prescribe a pill.

It is safest to count a pain in the abdomen appendicitis until you can prove it is not and withold all purgatives.

The average patient has more dread of the anesthetic than of the operation.

Book Review

"FRACTURES, DISLOCATIONS and SPRAINS", published by the C. V. Mosby Co., is probably the most recent complete work on this field, and is certainly the most practical for use by the general practitioner that has ever come to our hand. The book is compiled by two eminent men in orthopedic work, Dr. J. A. Key, of Washington, and Dr. H. Earle Conwell, of Birmingham, and it is clearly presented for the small-town physician, such cases needing the attention of a specialist being carefully defined, the best form of emergency treatment being included also.

Every phase of fracture occurrence, the diagnosis and treatment of all simple or complicated ones, is separately emphasized with frequent and distinct X-ray photographs accompanying. The fractures of the skull and face, which generally require the specialist's care, are treated in a chapter written by the late Dr. Charles E. Dowman.

"FRACTURES, DISLOCATIONS and SPRAINS" will take the place of several books in one, for it thoroughly covers the field as no other one up-to-date book does for the general practitioner—he who is most commonly the first to see the victims of automobile as well as other injuries. You need this book.

Price, $15.00. Published by C. V. Mosby Co., St. Louis, Mo.

Mrs. Van Alstine, President of the Woman's Auxillary which will meet with the Medical Association in Natchez on May 8, 9, 10.

"DOC" SIFFERS

"Ef you don't know "Doc" Siffers, I'll tell you here and now,
You've been a mighty little while round here enny how.
Why "Doc" had rid these roads and woods er swum 'um, now and then and
Practiced in this neighborhood, since ain't no tellin' when.
No man nor woman, chick nor child, nor team on top of ground
But knows him an's got respect and likin' fer him too,
In spite of his defects, of genius shinin' through.
Some says he's absent minded, and lows they wuz afeared
To take his powders, when he dosed 'em out and peared to have his mind on sumpin' else
Like county ditch or some new way of tannin' muskrat pelts or makin' butter come.
But when all is said and done, he's jest hissef—"Doc" Siffers, and there ain't nary nother one."

Fetal Intracranial Injuries*

FRED L. ADAIR M.D., F.A.C.S.
Chairman and Professor in the Department of Obstetrics and Gynecology, The University of Chicago, and The Chicago Lying-in Hospital
Chicago, Ill.

It is improbable that anything I say will be unique, startling, or in any way novel. Commonplace events are sometimes ignored or accepted as more or less inevitable, and one always runs the danger of becoming fatalistic about events which seemingly could not easily have been avoided.

There has been more or less discussion and divergency of opinion as to whether or not human reproduction is a physiologic or has become a pathologic process. This is not a question for argument at this time, but one might state that it could be considered as near the borderline of a pathologic process. Trauma of greater or less degree accompanies labor and is incidental to it. Any injury is pathologic; if we cut our finger, contuse a limb, strain a fascial or ligamentous support—it is a trauma. If, in carrying out the physiologic process of labor, the cervix is torn, the vagina bruised, the vesivovaginal fascia injured, or the sacro-iliac ligaments strained, trauma has occurred, producing a pathologic condition.

The fetus is inevitably traumatized, as the simple severing of the umbilical cord is an injury which has resulted in serious consequences, but fortunately are now less frequently associated. We do not consider it as of much significance, and yet if we cut three vessels of corresponding size in the course of an operation, their ligation would be of considerable importance. In a laparotomy we would carefully consider our aseptic technic if we were dealing with vascular channels as closely associated with the liver and peritonium as are the umbilical vessels. The treatment of the umbilical cord is a commonplace and neccessary incident in childbirth, but loses the dignity of a surgical procedure quite frequently. This is mentioned to stress the apparent unimportance of a constant injury done to the fetus, and yet it would be interesting to know the morbidity and mortality resulting from this trauma.

Head injuries to the fetus are fairly constant. It is difficult to imagine a fetal head being born without some compression and varying degrees of damage. The head-lock brings many a wrestler to defeat. Cranial compression of the incompletely ossified head of the fetus results in damage often irreparable and not infrequently in death. We look upon a caput succedaneum with some interest, but not much concern. If we had a bruise on our own heads with corresponding ecchymosis we would consider it quite a bad bump. A contusion or scalp wound from forceps extraction is viewed with equanimity. The cephalhematoma externa gives more concern and indicates real pathology. The wise let it alone, but the foolish sometimes enter with the blade of the scalpel. Skull fractures of various degrees and types are seen and are not rarely associated with intracranial injuries.

These external injuries are not the main theme of this contribution, but are mentioned to stress that each one of these external and visible pathological processes has its counterpart within the cranium. The edema and ecchymosis seen externally in the scalp are found within the skull in a form modified by the environment. The cephalhematoma externa is represented by a similar but less frequent process exhibited in the cephalhematoma interna. There are other intracranial traumatic lesions which will be discussed in more detail after a few fundamental considerations have been reviewed.

The more violent the labor or the greater the dystocia, the more likelihood there is of intracranial injury, other factors being equal. The tighter the head fits in the bony pelvis the greater is the compression and the more danger there is of damage to the brain. Deficient ossification of the skull and prematurity, with the greater friability of tissue, tend to favor stretching and tearing of tissue, with resultant injury of blood vessels and brain substance. The membranous development of the cranial bones, with the six fonticuli and the many sutures present at birth, are too well known to need comment. This conformation of the fetal skull favors compression and moulding, with the result that labor is facilitated and the hazard to the mother is lessened, but the danger of fetal brain injury is increased. If, however, such adoptation of the fetal head to the parturient canal were not possible, fetal death from other causes would be more apt to occur.

It is easily understood that factors which predispose to birth injury are varied and may arise from three sources: The fetus, the mother, and the attendant. Insofar as the fetus is concerned, one has to consider the size, maturity, position in utero, and the plasticity of the skull and other tissues.

In discussing the maternal factors, it is necessary to bring out the importance of the parturient canal, Insofar as the bony canal is concerned, one has to consider its size and form in relation to the size, form, and adaptibility of the fetal head. The ligaments and joints of the pelvis have to be mentioned as of importance ,as the pelvis of the parturient woman can no longer be considered a rigid passage without elasticity. The amount of give varies and the degree of pelvic mobility vitally affects the welfare of the fetus passing through it.

One is inclined to think of labor as a mechanical process, largely in the terms of fetal skull and bony pelvis. The soft parts play a very important role in complicating labor and one cannot ignore cervical or even perineal dystocia. This brings us to a consideration of the powers of labor, in relation to fetal intracranial injury. One has to think of the expulsive powers, and in connection with intracranial injury one's interest would perhaps center on two types of contractions. First, the violent contractions, which propel the infant rapidly through the inadequately prepared passages without time for adjustment to the normal mechanism of labor. Second, the more or less ineffectual pains with lack of driving power. The head may remain more or less stationary in the birth canal and be subjected to repeated and long continued pushing against resisting forces, which results in pronounced vascular changes and tissue stretching.

One cannot give the powers of labor just consid-

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*Read at the Fiftieth Annual Session of the Mid-South Post Graduate Medical Assembly in Memphis, Tennessee, February 13, 1934.

eration without thinking of the resisting forces in relation to the expulsive powers, because, in the last analysis, it is the relationship between the two which largely determines the character of the labor. The resisting forces are made up of the soft parts of the lower uterine segment, the cervix, the vagina and perineum, the bony and ligamentous pelvis, and the mechanism of labor which is necessitated by the size and shape of the fetal head in its relation to the size and shape of the pelvis.

Further, the course and termination of pregnancy and labor are of extreme importance, especially because of variations from the normal and the complications which arise therefrom. In spite of these alterations, labor may be terminated with non-interference and, nevertheless, intracranial injury may occur. Interference may be deemed necessary and may result in the delivery of an injured fetus, one with slight trauma, or one alive but better dead, or a fetus born dead due to brain injury.

A factor of major importance in the prevention and production of these injuries is the attendant obstetrician, who must know on whom to operate, when to interfere, and how to terminate the labor with a minimum of damage to the mother and the fetus. It might be well to mention that sometimes timely interference is less disastrous than ill-judged procrastination. On the whole, great fetal damage is done from injudiciously selected procedures done at the wrong time, and in an improper manner. It is opportune to note that interference may be blamed for damage done prior to an operative procedure. In order to demonstrate that fetal intracranial injuries are important, it may be appropriate to give a few figures, relative to the frequency of such damage.

Our knowledge of intracranial injury dates back to Little (1862). who recognized brain injury as causing fetal death and resulting in sequelae which were carried into later life, as spastic paraplegia and idiocy. Spencer's (1892) contribution is little known, but he believed that mechanical injury, associated with intracranial hemorrhage, was of great importance in the causation of fetal death. He substantiated his opinion by 130 autopsies, and concluded that cerebral hemorrhage was most frequent in forceps deliveries and next most frequent in breech extractions.

Beneke made an important contribution in 1910, based on more accurate observations of the intracranial contents by means of an improved autopsy technic. The essential feature of this new technic was the opening of the fetal head by making large windows in the parietal bones, thus exposing the cranial contents in situ. He demonstrated the frequency and importance of hemorrhages in the posterior fossae, which he found in association with tentorial lacerations. He stated that the worst tears were found after difficult labors, but that he had observed them after both easy, rapid, and normal labors. His work has been confirmed by subsequent observers, one of whom was Holland, who has made one of the best intensive studies (1922). He found tentorial tears in 48 per cent of 167 fresh fetuses which he examined postmortem, and there was cerebral hemorrhage present in 54.5 per cent. Evidence of intra-

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cranial injury has been found by others in varying percentages of cases. In general, hemorrhage seems to be found more frequently than tentorial laceration. The former appears to occur in from 40 to 50 per cent, and the latter in from 20 to 30 percent of the fetal deaths. The percentage of incidence of both conditions, which is found in a series of autopsies done on infants dying in the neonatal period, is considerably less, but a large number of infants succumb in the first week of extra-uterine life from intracranial injury.

In a series of approximately 1,000 fetal autopsies done at the University of Minnesota, in the Departments of Obstetrics and Gynecology and of Pathology, intracranial injury was the greatest single cause of death; 31.2 per cent of these deaths were assigned to intracranial injury. There were 718 of the 961 tabulated cases alive at the onset of labor, and of these 41.8 per cent died from intracranial damage. Some of these infants were previable and premature, and in others the evidence of death from intracranial damage was not absolute. If one considers the full-term cases alone, the findings at autopsy indicated that 39.7 per cent gave definite and probable evidence of birth trauma as the cause of death, and in 31 per cent it was felt that a definite diagnosis could not be made from autopsy findings. The oversized infants showed higher incidence of injury.

Rydberg, in a recent publication, expressed the opinion that the forces of labor tend to reduce brain volume and produce an anemia of the brain. He believes there is remittent brain pressure which interferes with intracranial circulation and causes a general circulatory strain. Localized pressure may cause an injury to the brain substance. Intracranial hemorrhage may result from localized vascular injuries, or from generalized intracranial circulatory disturbance. Circulatory obstruction in the brain may cause tissue injury and intracerebral bleeding.

Rydberg believes that microscopic hemorrhages are usually present in newly-born infants. In 75 cases, intracranial hemorrhages visible to the eye were found 58 times; meningeal hemorrhages, usually small, were most common, and ventricular and brain hemorrhages were less frequent but by no means rare. It is impossible to determine in how many of these cases the hemorrhages were the prime factor in causing death. He believed that in many cases they have little pathogenic importance and may at times be agonal in origin.

The infrequency of birth trauma as a cause of death in vital statistics, and the lack of appreciation of this condition by practitioners of obstetrics, are shown by the fact that of 300 cases in which there was demonstrated evidence of intracranial injury at autopsy, a clinical diagnosis had been made in only four. On the death certificates the diagnoses appeared in only 75. It is apparent from this that one cannot draw conclusions from vital statistics as to the frequency of fetal intracranial injury.

Sharpe, in a series of 100 consecutive lumbar punctures on newly-born infants, found free blood in the cerebro-spinal fluid nine times. Low forceps were used in 10 cases of this series, but non e of these showde evidence of intracranial hemorrhage. In subsequent series, published by the same author, evidence of hemorrhage in the cerebro-spinal fluid was found in from 7 to 13 per cent of the cases.

These injuries are not limited to the white race, as Yagi, a Japanese observer, has reported fetal intracranial hemorrhage in 34 per cent of his series. He also analyzed cases clinically, and found evidence of intracranial damage in about 3.5 per cent. Of these, he believes over 29 per cent would suffer more or less permanent mental or physical damage. There is no doubt that subsequent cases of idiocy and spastic paraplegia, seen by pediatricians, neurologists, general practitioners, and others, are due to intracranial birth injuries. It is difficult to know how many less serious disorders are due to lesser trauma which may present little or no evidence to the routine observer of the newly-born infant.

There have been few follow-up studies from careful post natal observation os to maturity. Wetterdal studied 4,000 infants up to their 12th year of life. Two thousand were delivered by forceps, and 2,000 were born without interference by vortex presentation. Of the total number, 756 died, leaving 3,526, or 88 per cent, alive at 12 years of age.

The primary mortality from low forceps operations exceeds very slightly by 1 per cent, that of spontaneous deliveries. No mental or physical inferiority at the age of 12 could be demonstrated in the children delivered by low forceps, as compared with those born spontaneously. For intermediate and high forceps operations, the primary mortality and the proportion of serious mental defects are much higher than in either group of low forceps or spontaneously delivered infants.

Schwartz, some years ago, found evidence of brain injury in 65 per cent of the infants who died within the first five months of extra-uterine life.

There are quite a number of authors who attribute idiocy to prolonged labor and what has been considered asphyxia. The evidence pointing to asphyxia and subsequent defectiveness does not appear to be conclusive. Moreover, our conception of asphyxia should not be altered and its use restricted to the actual meaning of suffocation. Apnea designates a symptom or sign but does not diagnose the condition. The terms, "asphyxia" or "suffocation", in my opinion, should be used as a diagnosis only in those cases in which the fetal circulation has been actually interfered with or cut off, which is really the only method by which a fetus could be suffocated, as there is no prenatal respiration. After birth there may be interference with respiration from other causes, with resultant asphyxia. Aspiration, of course, occurs antepartum and may lead to post partum suffocation when the function of respiration cannot be carried out properly.

The reason for this discussion is that many of these so-called asphyxiated infants are actually suffering from trauma of the central nervous system and should be so diagnosed and treated. In our series of autopsies there were 262 cases in which asphyxia was diagnosed, and in only 35.5 per cent of these was there

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no evidence of intracranial trauma. It would seem to be true that approximately two-thirds of the infants who were thought to have died from asphyxia were, in reality, killed by intracranial injury. Pursuing this thought a little further, one might ask whether asphyxia or birth trauma should be diagnosed following natural deliveries. Spontaneous deliveries took place in 58 per cent of the infants who died intrapartum or postpartum deaths, and about 26 per cent of these showed definite evidence of trauma at autopsy.

No attempt has been made to prove anything by the previously quoted statistics, except that intracranial injury is a frequently occurring condition which constitutes a major obstetric problem. It is not the treatment of these conditions which is so important, but it is the prevention. Manifestly, it is not possible to understand the prophylaxis until the mechanism of their production is thoroughly known.

An understanding of the anatomy of the fetal head is one of the first essentials for a comprehension of the problems of intracranial injury. Holland has made a splendid contribution to our knowledge of this subject, and free use will be made of his lucid descriptions.

It is not necessary to describe the external appearance and structure of the head with its numerous membraneous bones with intervening sutures and fontanelles. The plasticity and mobility of the cranial bones, on a more or less fixed base, are too well known to merit discussion. Head moulding with or without caput succedaneum formation is an every-day observation, and yet, how many of us really consider what is taking place within the skull while powerful compressive forces are moulding the fetal head to fit the birth canal. The external surfaces of the cranial bones are covered with a tough osteogenic membrane, which fuses with a similar internal membrane at the membraneous margins of the sutures and fontanelles. This internal membrane consists of a tough layer which lines the bones, surrounds the sinuses, and forms the septa, and is covered on the visceral surface by a delicate lining of serosal character. The dural folds, or septa, are four in number, making up the falx cerebri and cerebelli, and the two halves of the tentorium cerebelli.

To refresh one's memory, it may be wise to recall that the attachments of the falx cerebri follow the course of the superior longitudinal sinus. The halves of the tentorium cerebelli are attached along the lateral sinuses of the corresponding sides. The occipital sinus is covered by the falx cerebelli. These folds meet posteriorly in a point of fusion at the torcular Herophili, where there is a firm main mass of fibrous tissue. The walls of the sinuses are strong and resistant to injury, and the septa are firmly attached to the bone along their course. The falx cerebri joins the tentorium cerebelli in a strong band, which Holland terms the "white line". This lies beneath the straight sinus, into the terminal portion of which the vein of Galen enters. This white line occupies the angle where the two halves of the tentorium meet.

There are aggregations of fibers into bands in these septa, and they have been termed "stress bands". They radiate from the region of the white line in various directions, and Holland describes them as belonging to two systems. One is the antero-posterior system, consisting (1) of a firm mass of fibrous tissue which is adherent to the occipital bone in the region of the torcular Herophili; (2) of a fibrous column in the superior longitudinal sinus which passes in front of the torcular Herophili to join the main mass, and (3) of a broader and thinner part placed around the occipital sinus and forming the falx cerebelli. The main mass sends forward two deep horizontal bands, which diverge forward and, approaching each other, become attached to the clinoid processes.

The other, or vertical system, consists of fibres running upward in the tentorium cerebelli, and others passing downward in the falx cerebri. They converge and unite with each other in a strong band, making up the vertical band of the tentorium, which corresponds to the anterior fifth of the white line. In addition to the dura and its septa one has to think of the pia mater, with its fragile thin-walled vessels and the loosely constructed arachnoid membrane.

The distribution of vessels is important and some of the vascular channels already have been mentioned. The rich vascular distribution in the choroid plexus of the ventricles is of importance, but from the standpoint of their relationship to hemorrhage of the brain, the vessels tributary to the vein of Galen are of much greater interest. This vein begins with the junction of the two internal cerebral veins and ends in the straight sinus. It receives blood from two basal veins, from veins coursing along the superior surface of the cerebellum, and from veins emanating from the pons and the mid-brain. The straight sinus also receives veins from the upper surface of the cerebellum.

The usual site of hemorrhage within the fetal cranium is in the posterior fossa and cerebellar region. There are various sites of hemorrhage which may be mentioned. There may be gross and diffuse hemorrhage from ruptured sinuses, or hemorrhage from the pial vessels. Parenchymatous bleeding is found in punctuate areas or in larger amounts. Rupture of the choroid plexus takes place with extensive hemorrhage into the ventricles. The type of bleeding with which we are particularly concerned, on account of its frequency and its etiology, is that which occurs in the cerebellar region

At this time it may be well to make a rough grouping of intracranial hemorrhages. One can recognize three etiologic groups, namely:

1. Hemorrhages occurring in the fetus which are due to congenital or acquired conditions, such as hemorrhagic diathesis, fragility of tissues, or syphilis.
2. A type due to acute suffocation or asphyxia, which is seen as the result of placental separation, cord entanglements, etc.
3. Traumatic hemorrhage, due to obstetric intracranial damage.

Any or all of these may occur in combination. Tearing of the dural folds is not as common as hemorrhage, and either one may occur alone.

There are forms of intracranial injury unassociated with either hemorrhage or lacerations of the mem-

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branes. However, the presence of bleeding and of lacerations is the best and most conclusive evidence which we have of intracranial injury.

At this time our discussion practically will be limited to the obstetrical traumatic brain injuries asscociated with hemorrhage and lacerations, though one cannot ignore wet brains as evidence of intracranial damage.

It is important for us to know what is taking place within the cranium during the process of labor. One could probably state, without much danger of contradiction, that every fetal head which is born through the birth passages is subjected to some degree of stress, which is force of any kind that tends to change the size or shape of the fetal head. The force applied to the head is very complex and may result from the maternal soft or bony parts, and even from the action of one part of the fetal body against another. Strain is the resultant of stress, and we can readily understand that the type of strain is by no means simple, when we consider the different relationships between the size and shape of the maternal pelves and the fetal heads, the multiplicity of fetal positions, and the variations in the mechanism and duration of labor. The engagement and descent of the head in flexion or extension, the internal rotation, and delivery by extension or flexation—all modify the type and degree of strain. The aftercoming head in a breech presentation or following a version is subjected to an inversion of the type of strain seen in cephalic presentations. Strain, most certainly, is of a compressive nature in all types of delivery.

A strain is an alteration in the size or shape of a solid body which may be compressed or expanded. It may result from compression, stretching, tension, or torsion. Head compression or moulding is a strain resulting from stress and produces tension and stretching of certain tissues. The cephalic strain would seem to be the result of compression, torsion, or tension. In artificial deliveries we are confronted with altered and exaggerated types of stress, which result in much the same types of strain. The direction or axis of the force applied may be altered from that of natural delivery. While the conformation of the head is adapted to withstand the stress of the natural process of birth, it is not prepared to meet the misapplied stress of abnormal and artificial labor.

If one considers the stress of normal vertex labor, it is apparent that the stress is not applied to the head in the same axis in all positions. The direction of the force would be different in a left occipitoanterior than in a right occipitoanterior position, and there would be variations in the lines of force in anterior and posterior positions. The degree of flexion of the head would also alter the direction of the force. It would be applied in a different cephalic axis in a well-flexed head than in one occupying the military attitude.

There are certain general trends which are common to all. There is a generalized compressive stress which tends to diminish the horizontal circumference and increase those of the vertical planes. This is seen in the moulded and elongated dolichocephalic type of head. It is easily comprehensible that the greatest stress would be applied to the longest diameter of the head, as it adapts itself to the various pelvic diameters. The internal rotation of the head implies torsion and, naturally, the elongation of the head in any of its diameters means tension and stretching of the contained structures.

In addition to the general compressive forces, there is localized stress even in normal positions. Two examples will clarify this localized compressive stress, which seems to be of great importance. The long axis of the fetus tends to be shortened during labor. This signifies, among other occurences, that the cervical spine is crowded against the base of the skull, which is pushed toward the obstructed vertex. The reverse of this is encountered where there is a pull on the cervical spine and the base of the skull, as may be in the delivery of the aftercoming head or in those cases in which resistant shoulders are delivered by traction on the head and neck.

A second example is easily demonstrated in nearly any case of vertex delivery. One can distinctly feel the depressed occipital bone with the over-riding parietals as the head is stemmed under the pubic arch.

It is obvious that localized compressive forces are applied in cases which vary from the usual. A depressed skull fracture is an extreme example of such a force. Asynclitism favors such localization of forces, but it presents one of the best examples of a typical stress which results in a typical strain.

In looking at fetal heads, one can usually visualize the strain, but in some cases in which definite evidence of intracranial damage exists, there is little or no external evidence of strain. One could not believe that there had been no stress and resultant strain, but rather concludes that the stress and strain were transient and the elasticity of the skull restored the normal configuration of the head as soon as the stress was removed. This brings up for consideration the time element or the duration of the stress. The application of the stress is usually intermittent and, generally, each stress period is of relatively short duration. The total sum of these various periods may be small or large, depending upon the duration of the labor or delivery.

The acme of the force is also important, for a long-continued, moderate stress might do little damage if there were no short-lived but excessive stress. One of the best examples of this can be seen in the use of such an agent as pituitary extract. A slow labor may be rapidly accelerated by the use of this oxytocic preparation. A rupture of the uterus following its administration is a clear-cut demonstration of excessive stress. Many babies are delivered rapidly after its administration without rupture of the uterus, but they may be born dead or die some days later from intracranial injury associated with rupture of the dural septa and hemorrhage. Not only is the amount of force applied important, but also the rate at which the acme is reached.

There are factors with reference to the head itself which affect the result materially. The plas-

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ticity of the skull and the strength and fragility of the tissues, due to immaturity and developmental tendencies, vitally influence the susceptibility to intracranial injury. These general considerations can be applied to the various positions of the fetal head during the process of birth.

In vertex presentation the maximum compressive stress is applied in the occipito-bregmatic circumference, particularly in the sagittal plane. The same laws are true of the deflexed head, except that the occipito-frontal circumference is the one most affected. In the extended heads of brow and face presentations the greatest circumferences are subject to the greatest compression, also in the sagittal plane They affect the head more in a vertical direction than in the antero-posterior and horizontal planes.

In breech delivery and extraction following version, the stress is applied to the head in the same circumferences and diameters as for vertex and deflexed heads, but in the reverse order. The direction of the application of the stress is pratically inverted. This is of great importance because the structure of the head does not appear to be so well adapted to withstand this inverted stress. Injuries to the cervical spine, cord, and medulla to which we are not now devoting much attention are considerably more frequent in breech than in cephalic presentation. These are very important, nevertheless, and are frequently accompanied by intracranial injury.

There are some peculiar features, relative to the fetal head, which increase the complexity of the problem. It is not of simple shape, the covering is of different tissues, arranged in layers and not uniform in plasticity, even in the same layer. The membranous, bony layer is the more important. It varies in plasticity, the base being quite rigid, except for the foramen magnum. The cranial bones are more or less rigid, but are susceptible to bending. The intervening membrane is plastic though tough, and acts as a sort of hinge for some of the bones and permits approximation nad even marginal over-riding of apposed bones.

The contents are not uniform in shape or consistency, and are subdivided into sections which are delimited by membranous septa. They are, for the most part, rigidly attached to bone at one margin and free on the other. These septa house fluid vascular channels communicating with vessels outside the skull. Various segments of the brain are loosely suspended in the skull, surrounded by a thin layer of a fluid medium. Fluids can pass with relative freedom in and out of the cranial cavity and even the cord and hind-brain may be crowded to and fro at the foramen magnum.

The amount of substance within the cranial cavity may be altered by external and internal conditions. The amount of fluid within and without the blood vessels is subject to change, and there may be an alteration in intracranial pressure due to the compression of the cord or hind-brain at the foramen magnum. These changes in intracranial pressure may be of serious consequence to the fetus and can be easily brought about by some of the phenomena of labor. One can think of the alternate compression and relaxation of the fetal head, associated with uterine contractions and relaxations, as having almost a pump-like action upon the fluids of the brain. If one considers the local compressive forces previously mentioned, it is not difficult to conceive of an intensification of such an action.

We have described previously the membranes and the important vascular channels in relation to intra-

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cranial birth injury. It is necessary to consider what happens to these dural folds and related vessels during labor. The effect of stress on the fetal head has been mentioned, and the resultant strain is depicted in the various types of head moulding. The shortening of the various horizontal and the lengthening of the vertical circumferences, seen in the various forms of vertex presentation, result in tension on the dural folds, which culminates at the junction of the falx cerebri with the tentorium cerebelli. As a result, tears occur at this point and tributary vessels or the vein of Galen itself may be torn.

In face and brow presentations the stress and strain are almost at right angles, with an increase in the antero-posterior dimensions and resultant stretching of the falx cerebri and tentorium cerebelli at a different angle and subsequent tearing of their free borders. No more lucid description of the effects upon the septa and their related vessels can be given than that of Holland, who states as follows:

"The first effect of stress is alteration in the shape of the head, or molding; this necessarily involves alteration in the position, absolute and relative, and curvature of the cranial bones. This movement of the bones is simultaneously transmitted to, and is resisted by (this is important to appreciate) the attached septa of the dura mater, which appear to form a mechanical system especially arranged to limit the movement of the bones forming the cranial vault, and to resist a dangerous degree of alteration in the shape of head. The resisting septa become tense and stretched, and altered in position and direction. Overstretching results in tearing, the most common site of tears being in the tentorium cerebelli at its junction with the falx cerebri. Finally these changes in the septa are transmitted to the vein of Galen, whose fixed point is at the apex of the tentorium cerebelli; this vein becomes stretched, kinked and engorged, so that either itself or some of its tributaries are ruptured, resulting in subdural cerebral hemorrhage of greater or lesser extent." He states further:

"They are stretched between their two fixed points, their upper fixed point is the vein of Galen, and their lower is the cerebellum. The vein of Galen, as already described, is displaced upwards and forwards, and is kinked, by the pull of the tentorium; the cerebellum is not held down but is pressed still further down into the posterior fossa, by the downward pressure of the posterior poles of the cerebral hemispheres. In consequence of the upward pull and kinking of the vein of Galen, and the fixation or downward pull of the cerebellum, these delicate veins become stretched and engorged, and finally ruptured. The same mechanism of rupture applies to the cerebellar veins which enter the straight sinus direct."

It has been stated before that the tears and hemorrhages are not per se dangerous, but are indicators of brain injury which, undoubtedly, occurs in some cases with neither microscopic laceration nor hemorrhage. The associated brain injury and changes in the intracranial pressure are the dangerous factors. The usually observed tears are in the tentorium, and they may be complete through both layers or incomplete, and may be bilateral or unilateral. Tears of the falx cerebri occur with much less frequency and are nearly always associated with tentorial lacerations.

These dural injuries are usually but not always associated with bleeding, which occurs more often than the grossly demonstrable tears. It is most important, clinically, to know the types of delivery with which such damage is associated. In Holland's 81 cases there were 44 vertex, one face, one brow, and 35 breech presentations. Twenty-five of the vertex cases were delivered by forceps for the following indications: Contracted pelves (7); placenta praevia (4); prolapsed cord (4); prolonged second stage (10), of which six were due to a persistent occipitoposterior, and four to uterine inertia.

Nineteen of the vertex presentations were delivered without interference, and the causes given for the trauma were prematurity, rapid second stage, persistent occipitoposterior, pituitrin, and perineal resistance and protection. There were 47 breech deliveries in his series of fetal autopsies, and 35, or 75 per cent, showed tentorial tears. It is interesting to note that 88 per cent of the primary breech and 71 per cent of the version cases showed evidence of intracranial trauma.

Brown had 91 cases of cerebral hemorrhage, of which 58 were vertex, with 25 forceps and 31 breech deliveries. Fifty per cent of his cases were premature. Various authors have reported similar findings.

In our series of 718 autopsies on fetuses alive at the beginning of labor, the position was reported in 658 instances. There were 521 cephalic, 119 breech, and 18 cross presentations. There was definite evidence of trauma in 32.6 per cent, possible trauma in 22.5 per cent, and no evidence in 44.9 per cent of the 521 cephalic presentations. The corresponding percentages for the 119 breech cases were 47.1, 13.4, and 39.5, and for the 18 cases of cross presentation, 38.9, 22.2; and 28.9.

The termination of labor was spontaneous in 485 of the 718, instrumental in 74, breech and version in 107, caesarean section, craniotomy, and other methods in 30 cases. The type of delivery is important as there was definite evidence of trauma in 26 per cent of the spontaneous, 47.3 per cent of the instrumental, and 58.9 per cent of the breech and version deliveries.

There were only 280 cases with infants alive at the onset of labor where it was possible to classify the pelves from the measurements. Among 94 babies born through normal pelves, 33 per cent showed definite trauma, in 22.3 per cent it was questionable, and evidence of trauma was absent in 44.7 per cent. The percentages for abnormally large pelves were about the same—33.3, 22.2, and 44.4, respectively. For a typical pelves the figures were 40.1, 20.4, and 39.4 per cent, and for the various types of contracted pelves the number were somewhat greater—41, 14.3, and 45.7 per cent. About 84 per cent of those previously pregnant had given birth to living infants, and for the various groups metioned above, the corresponding percentages were approximately 84, 83, and

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79. For the sake of comparison of the incidence, it may be stated that in all of the above pelvic groups there was no significant variation in the percentages of deaths from suffocation and aspiration. About 40 per cent of the cases in which labor was induced gave definite evidence of birth trauma.

The rupture of the membranes may be important in relation to trauma, as the lowest percentage—12.5—was found where the membranes ruptured at the time of delivery. The percentages are about the same for cases of rupture at the onset of labor and at the beginning of or during the second stage, namely, 40 per cent.

The duration of labor is naturally of importance in relation to birth trauma. The percentage of cases with definite trauma was 32.7 where the first stage lasted less than 12 hours, 40.8 for the group where this stage lasted from 12 to 24 hours, and 43.3 for those lasting longer than 24 hours. So far as the second stage is concerned, the figures are 30.4 per cent for a duration under one hour, 37.8 per cent for a period of one or two hours, and 42.1 per cent over two hours.

It is noteworthy that birth trauma was the most frequent cause of death in this series—the percentage is 31.2. If the antepartum deaths are excluded, the percentage roses to 41.8. If the premature infants are excluded, the percentage becomes 20.7.

SUMMARY

It would seem, from the observations cited, that the menstrual age of the fetus is of some importance, though in our series the percentage of trauma does not seem much greater in the premature than in the mature infants. The onset of labor is of consequence, as the induction of labor seems to be associated with a somewhat higher percentage of traumatic cases. The time of the rupture of the membranes seems to have no material effect on the incidence of birth trauma, unless the rupture occurs late at the time of delivery. In these cases the incidence of trauma is much less.

The type of bony pelvis obviously is not the only factor in the production of intracranial damage, as over 30 per cent of the infants born through normal and even large pelves showed evidence of trauma. The abnormal pelves were associated with a higher percentage of trauma. The duration of labor in both the first and second stages is a matter of importance, and the longer the duration the higher is the incidence of injury.

There are many other factors which, doubtlessly, could be brought out in a controlled series of autopsies where all the records, etc. could be kept, with observations made in the same institution.

CONCLUSIONS

1. It should be emphasized that the tearing of the dural septa per se is not the important factor in intracranial birth trauma, nor is it the few drops of blood which are found frequently. The important factor is that these are the best criteria we have of brain injury. It is probably true that brain damage is done in cases in which we find no evidence of lacerations and hemorrhage, though this is difficult to prove. Marked edema of the brain and tissues is

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found frequently, both with and without lacerations and hemorrhage. Increased intracranial pressure, no doubt, results from such edema.

2. Head molding is not the only important factor, as intracranial damage results from cases in which the labor has been short and violent and not associated with head moulding, such as is seen in prolonged labor.

3. Depression of the occipital bone produces tension on the dural septa and probably damage to the medulla and cerebellum. Such depression of the occipital bone is apt to occur in vertex presentations, with a short antero-posterior diameter of the outlet, with a rigid perineum, or where vigorous attempts are made to protect the perineum by pressing the head against the pubic arch. This pressure against the occipital bone also takes place in breech deliveries where the occipital bone is used as a fulcrum resting against the pubes for the delivery of the after-coming head.

4. It is probable that increased intracranial pressure, with engorged vessels and resultant edema, can occur from a sort of pump-like action when the fetus is alternately compressed and relaxed in its longitudinal axis, as the result of the contractions and relaxations of the uterus.

5. The atypical compressions of the head seen in asynclitism, asymmetrical pelves, operative deliveries, etc., are important factors in the production of intracranial injury.

6. One has to consider the fact that there is not always equalized pressure of the head. This is best illustrated by the localized edema which occurs on the scalp. Such unequalized pressure externally probably has its counterpart within the skull.

7. It is not always possible to determine the exact cause of fetal death, as multiple conditions are found frequently.

PROPHYLAXIS

The following suggestions are made, relative to the prophylaxis of brain injuries to the fetus:

1. Examine the prospective mother and treat her with the idea of recognizing complications and preventing premature birth, if possible.
2. Estimate the size of the pelvis and its plasticity.
3. Diagnose the fetal position and correct it, if possible to do so, either prior to or early in labor.
4. Watch the progress of labor closely and try to preserve the membranes intact.
5. Do not administer oxytocins during labor.
6. Avoid the use of any forceps except the low application, insofar as it is possible to do so.
7. Avoid the use of forceps in any cases of malposition until it has been corrected, and apply them only to the transverse diameter of the head.
8. Avoid forceps in cases of disproportion.
9. Avoid forceps where the soft parts are not properly dilated and prepared for delivery.
10. Avoid breech extractions and versions when possible, and employ only where and when the conditions are favorable.
11. Avoid vigorous attempts at perineal protection, as pressure of the occipital bone against the pubic arch depresses it and does harm. The same statement applies in deliveries of the after-coming head.
12. Remember that so-called asphyxiated babies are traumatized in over two-thirds of the cases. They are often in shock and should be treated gently and kept quiet and warm. Avoid vigorous attempts to establish respiration.
13. Cesarean section should be done judiciously at the proper time and in appropriately selected cases.
14. Traumatized infants should be treated properly by sedation, rest, and blood injections or transfusions.

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Physical Therapy In Chronic Arthritis

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Physical agents in the treatment of arthritis are most important. Their importance is shown in a recent analysis of fifty hospitalized chronic arthritis cases in the Mayo Clinic (1). Although the average duration of these cases was 5.7 years on admission, only sixteen had been advised by their regular physicians to have massage, only eight had been given exercises, corrective or preventive of deformities; and only four had been given supervised application of heat for a period longer than two months. About half of this group had been sent to spas or other resorts, which indicates that the value of physical therapy was recognized. This analysis emphasizes the fact that physical therapy in America, as compared to England and the Continent of Europe, is little used and relatively unavailable, and this affords the greatest reason for the existence of osteopathy and chiropratic.

As it would be impossible to consider fully the use of physical agents in the treatment of chronic arthritis in a short paper, it is desired to illustrate here certain important principles of their use in this disease. These principles are: physical therapy should be prescribed by a physician, often administered by him; never turned over to a technician with indefinite directions; and the best physical agents to use are the simplest, cheapest and most easily obtainable; i.e., heat, water, massage, rest and exercise.

In most cases where physical agents are useful they should be used oftener than the physician or technician can treat the patient. If the physician will take the time to prescribe the use of physical therapy he can give these cases the same treatment with physical agents at home that they would get in a hospital or sanitarium, save the patient considerable in the cost of his medical care, and the physician can keep control of the case for the prolonged period necessary in the treatment of chronic arthritis.

These physical agents should never be used alone, but should always be used as adjuncts to other forms of treatment. The following extracts from the concept of the American Committee for the Control of Rheumatism are important.

1. The disease chronic arthritis, prevalent in all temperate zones, represent one of the most important, if not the most important, of existing social and industrial handicaps.

2. The committee conceives of the disease as a generalized disease with joint manifestations. Certain prodromes may be recognized. It is of vital importance that they be recognized.

3. It is the opinion of the committee that at the present time no single infectious agent or any completely defined dietary deficiency or metabolic disturbance has been conclusively shown to be the sole cause of these disorders. The committee inclines to the belief that any one of these factors or certain combinations of these factors under appropriate circumstances may basically underlie the onset of the disease.

4. The committee feels it of vital importance that the medical profession have its attention directed to the methods of proved value which are at present at its disposal. In spite of etiologic uncertainties, the committee feels that properly managed therapy which takes into account both infections and metabolic factors has yielded results which encourages optimism and impose the obligation of further developing such methods.

As it is a systemic disease in which the joints, skin, nervous system and gastrointestinal tract are involved, the problem of treatment must be met by the use of all the tools of medicine, first for the restoration of normal physiology and resistance and second for the restoration of function.

At Northwestern University Medical School the management of these chronic arthritis cases comes under the medical department in a special arthritis clinic. Here the case is discussed frankly with each patient, telling them truthfully what can be expected, trying to be hopeful and encouraging but never promising results that are unattainable. The educational campaign includes lectures on diet and the physical therapy program.

HEAT

In arthritis the application of external heat both locally and systematically has an extensive and varied application. Therefore, every physician treating arthritis should have in his possession numerous apliances for the application of external heat, because in most cases the patient should be given some apparatus to apply local heat at home for varying periods daily.

These arthritic cases are given definite directions, mimeographed, for the application of heat, massage and exercise.** While in the hospital an appliance for the application of radiant heat is left in their room, and when they go home one is often sent with them. They use this form of radiant heat over the affected part for half hour periods, one to six times a day.

In addition to the local heat application the application of heat systematically is of value. At our clinic we use an electric lamp baker to cover the patient while lying in bed. If necessary one of these can be made for the home with little expense or a hot pack can be used.** Patients who are robust afford the best opportunity for this, and the hypertheropic varieties in well nourished individuals benefit most from it. Harm may be done by pushing this measure too far, for a condition of alkalosis and even tetany may be produced by the too prolonged use of heat systematically.

There has always been a popular belief that the value of heat systematically in arthritis was for elimination, but Pemberton (2) believes heat has only a limited value for this purpose. Its effects are chiefly those arising from the heightened circulation and the increased metabolism induced. The full benefits

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to be derived from the systemic use of heat in this connection sometimes depends on the contrasting applications of cold.

HYDROTHERAPY

In the use of water in the treatment of arthritis the Scotch douche and cold shower after a bake furnishes a "metabolic and circulatory whip" if properly used. Where the proper apparatus is not available, a full wet pack is a valuable substitute. For home use again the patient should be given definite instructions for its use.**

For local applications the contrast baths or paraffin baths are useful as described in the sheet of directions for home treatment.

Another hydrotherapeutic procedure that we have used in the treatment of arthritis is colonic irrigation. Stoner (3) states that: "there is not much evidence to indicate that a change of bacterial intestinal flora alters the arthritic state, and if betterment results, may it not be due to curtailment of diet, particularly carbohydrates. Evidence is at hand that tends to prove that encouragement of relief of colon content has a favorable effect on the disease. Clearing the large bowel regularly of its contents has value, whether this be encouraged by laxative, massage or so-called colonic irrigations. It is a fact that routine irrigations of the large bowel affect favorably the disease course in certain cases and this therefore must be looked upon as a helpful adjunct in treatment."

At the Illinois Central Hospital we use a simple apparatus that can be made by any physician with little expense. The one tube method as described by Pemberton (2) is used. Certain patients have secured beneficial results. It should never be given without diet regulation and abdominal exercises to prevent this measure from becoming a habit.

HYPERPYREXIA

Another method of using heat is to raise the general body temperature. Fever therapy by physical agents in the treatment of refractory cases of arthritis is definitely established as a valuable agent in the managment of this disease. The advantages of the use of physical agents to produce hyperpyrexia are that the temperature can be raised to the desired point at any time. These methods are without danger, provided the patients are carefully selected and the technic is carefully followed. The simplest method for this purpose is to use an electric lamp baker. The one we use was made by our electrician and contains sixteen 60 watt tungsten lamps. The patient is placed inside the baker with no covering. The baker is covered on all sides by rubber and woolen blankets which are also carefully wrapped around the patient's neck leaving only his head exposed. This baker costs little to make and there is no complicated apparatus necessary to keep control of the rectal temperature. In hyperpyrexia extending over any prolonged period it is essential to use rectal temperature readings. With the baker this is accomplished with an ordinary rectal thermometer inserted between the blankets covering the baker. If the treatment is started at 7 a. m. the temperature will reach 104 degrees F. by 8:30 a. m. This temperature is maintained for four to six hours when the baker is removed and the patient allowed to cool. Our results show that hyperpyrexia by physical agents is a valuable adjunct in the treatment of certain cases of arthritis. The arthritis clinic at Northwestern University Medical Schiol found that hyperpyrexia with diathermy was the most effective of the physical agents for this purpose (4).

MASSAGE

Pemberton has shown that there seems to be deficient blood supply to arthritic joints. In the early stages of the disease when there are no joint signs and only intermittent joint symptoms, increasing the local blood supply to the joints by heat, massage and active exercise may restrain or prevent premanent tissue changes in the joint.

The effect of massage in arthritis is to open vascular channels and increase the circulation. If this is so, and there is a deficient circulation to these joints, it must follow that massage must be given at frequent intervals. For this reason we have our patients bring in some interested member of their family for instruction in the use of heat, massage and exercise at home. If we are to be successful in the use of physical therapy in arthritis, a home program must be arranged for these patients, as it is useless to give physical therapy three times a week and no more. Every physician should be able to prescribe massage and exercise as he would drugs and it is dangerous to turn a patient with arthritis over to a technician with only directions to give massage and exercise. Heavy massage over an arthritic joint may cause a marked local reaction. An arthritic case should have gentle kneading massage above and below the affected joint and no massage over an acute arthritic joint. When the joint becomes subacute, superficial stroking massage may be started over the joint in addition to the kneading massage above and below. This should be preceded by at least fifteen minutes of heat. Some member of the patient's family is instructed in this massage, and it should be given for about ten minutes twice daily. The details of the technic of massage are given in the Handbook of Physical Therapy issued by the Council of Physical Therapy of the American Medical Association.

REST

If chronic fatigue is one of the chief factors in all arthritis, certainly rest is one of the most important agents in the treatment of the disease. Swaim (5) states that fatigue is not only a subjective symptom but the physical signs of it are also present, for example subnormal morning temperature, poor pulse, vasomotor instability, low blood pressure, lowered metabolism and poor muscle tone. He believes that fatigue of this kind is due to disturbances of the normal physiology of the organs in the thorax and abdomen, and has its effects chiefly through the circulation and sympathetic nervous systems as is shown by cyanosis of the lips, cold hands and feet, localiz-

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ed blanching, skin changes and deranged heart action.

Rest should be prescribed with as much discrimination as any drug. Usually the rest should be in bed for certain periods daily or continuously. At first, after each meal a pillow is placed under the shoulders, the hands are placed under the head, and a pillow is placed under the knees. This raises the chest and abdomen, hyperextends the dorsal spine, flattens the lumbar spine, and results in abdominal breathing with better use of the diaphragm.

After a half hour the face prone position is taken and radiant heat is applied to the spine to stimulate spinal circulation. These periods are given after meals whether the paitent is in bed continuously or ambulatory. If continuously in bed these periods are continued until exercises and proper supports enable the patient to continue this correct position when up. They are then allowed up for increasing periods.

Rest is also an important agent in the local treatment of the affected joints. Rest and exercise are most important in the function of a joint. This rest should be in a position that is best adapted to prevent strain or contracture, thus preventing deformities. These positions have been described by Swaim (6).

EXERCISE

Exercises in the treatment of chronic arthritis are important to correct and atone for faulty body mechanics and malposture, and locally to prevent deformities and to increase the blood supply to the joints. Atrophic arthritis is more common in the thin, stoop-shouldered, flat chested and relaxed abdomened person. Their muscles are weak, their chest is narrow, treir diaphragmatic excursion is small, their abdominal viscera is sagged and the weight bearing lines of their joints are not true. These bad body mechanics can be corrected by proper exercises and postural rest periods, and it is inevitable that there should be some improvement in these cases, if there is more room in the thoracic cage for heart and lung action; if the diaphragmatic pump can be set working again on the abdominal veins and viscera and if the joints can have their normal weight bearing lines restored. In hypertrophic arthritis the same principles apply to correct faulty body mechanics. It usually occurs in older people, and the remodeling is harder, but there is usually less to be done. (7)

Again, the patient and some interested member of the family are instructed in the use of the body mechanic exercises. These instructions are on mimeographed sheets.** In starting the exercise program the objects of the exercises are carefully explained to the patient by the physician for the patient's cooperation is absolutely essential in this program, and a statement of what is expected of each exercise must be given the patient to enlist his whole hearted cooperation.

The exercise program of every chronic arthritis case should be started with body mechanic exercises. These exercises are based on the development of a firm flat lower abdomen. The physician should direct the patient carefully and check over the performance of these exercises every week, adding new ones, and leaving off the easier ones as the patient improves.

For local joint conditions during the acute stage, deformity must be prevented by rest in proper sup-

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ports, but painless active motion is encouraged. These joints should never be manipulated by passive exercise for swelling interferes with the circulation which is already poor and trauma is done the diseased tissues.

After the acute stage has passed, joint motion must be restored. Here again exercise is given on prescription by the physician. There should be a mimeographed sheet of exercises for each joint by which the physician can indicate the exercises to be used.** The best results in the restoration of stiff joints following chronic arthritis are not from passive movements but by the gradual use of these joints by directed exercise and occupational therapy.

Exercise for a single joint is monotonous, but this exercise given by an occupation with a definite object in view makes the patient forget the exercise by thinking of the task to be finished. This work must be directed so as to definitely exercise the muscles desired.

Again a physician with a little thought, can prescribe this occupational therapy for home use. In most homes there are pieces of furniture needing refinishing and any of the arm muscles can be exercised by removing the finish by sandpapering. The shoulders are exercised by placing the article on a table. A woman can be taught handweaving on a rag rug on a home made loom and the position in which it is placed exercises various arm muscles. Again it is emphasized that when not in use the joint should be in a position of rest in proper splints, to prevent strain and contracture.

In conclusion it is desired to emphasize that physical agents are important adjuncts in the treatment of arthritis; that they can be used by any physician in any place as they are cheap and easily obtainable, but that to secure the best results they must be carefully prescribed by the physician and used under his directions in the hospital, his office and at home by the patient assisted by some member of the family.

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**Directions supplied on request to author.

The Present Status of the Injection Treatment of Varicose Veins

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In February, 1932, I reported my experiences following the injection or obliterating treatment of more than 900 cases of varicose veins and ulcers and summarized the literature of the subject to that time.

The total number of cases treated by myself, my associates and my assistants by this method now exceeds 1500 and, as a fair percentage (30%) of the patients have been followed and checked for several years, I have been enabled to form a more definite and confirmatory opinion as regards the painlessness, the economic advantages, (the method entails no suspension of habitual occupation), the permanency of the results obtained, and the relative value of various technical procedures and other data. I am still using as a sclerosing agent the 20, 30 and 40 per cent solutions of sodium salicylate. Increased clinical experience has increased my faith in the utility and safety of this agent. It has been demonstrated that sodium salicylate causes a high incidence of endothelial injury and is most efficacious as regards the production of thrombosis. Following the use of sodium salicylate, failure is rare, recanalization, uncommon.

Sufficient time has now elapsed to establish the high value of the injection method of treatment. In the past year or two, a number of important reports have appeared giving statistical results that fully demonstrate the simplicity, safety, innocuity and efficacy of the obliterating method. As to the permanency and completeness of cure of the varicose condition of the veins and of the eczema and ulcers so frequently associated with varicose veins of the leg, clinicians are agreed that as yet no better method has been suggested. It relieves the patient of the dread of anaesthesia, of the mental terror of operation, of hospital confinement.

In regard to the desirability of the method itself, as compared with surgical excision, but few have raised any objections and when the method is not contraindicated, it can be stated that the injection method has largely supplanted operative procedures. Nobl and Wolf (1), from their own experience and from the statistics of thousands of cases, conclude that in the hands of the experienced physician obliterative therapy involves no danger and that it can, except in a few cases, replace surgery. Alglave (2) thinks that the sclerosing method is not applicable to simple or complicated symptomatic varices; that it is often powerless in gross lesions, especially when inflamed, phlebitic or ulcerous; that the method is exposed to frequent recurrences and is often a com-

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plete failure even after minor infections; and, finally, that it may be accompanied by grave accidents (phlebitis, muscle atrophy, cardiac trouble and embolism). This extreme view of Alglave is almost an isolated one, although, of course, particular cases might be cited to support each of his allegations. It is admitted that the contra-indications to the employment of the method must not be disregarded. Our experience confirms our conviction that the incidence of disagreeable sequelae is very much lower than that following the operative removal of the veins; and in our practice, the injection treatment has almost completely supplanted all operative procedures formerly employed in the treatment of varicose veins. The dangers attending its use are practically negligible, and almost always can be attributed to errors of commission or omission in technique. Great caution must be observed when a history of post-operative, or post-puerperal infection of the deep veins can be elicited.

Regarding the general results, Lewis (3), in 848 patients, treated in the Bellevue Hospital, New York, obtained about 95 percent of good thromboses; whether the varicosed vein was collapsed or not at the time of treatment seemed to make no difference. Kettel (4), who treated 629 patients, states that the immediate results in uncomplicated cases showed 94.5 per cent to be without symptoms. Jensen (5) says that 227 out of 354 patients who completed the treatment were discharged cured. Gillespie and Strobel (6) report that 80 per cent of 300 patients treated were satisfied with results.

While the percentage of thromboses immediately obtained is always very high, the important matter is durability of results. Recurrence is perhaps the most important question associated with the injection treatment. Kettel found that after one year about one-third of his injected patients showed recurrence. After at least 5 years, one-third of the patients treated and followed were still free from symptoms and one-third were definitely improved. Faxon (7), in a series of 314 cases treated and followed at the Massachusetts General Hospital, some of whom were examined as long as 3 years following the last injection, the average time being 1.4 years, found good final results (no further treatment needed) in 27.3 percent; fair results (further treatment not urgent) in 53.3 percent; poor results in 19.4 percent. Sixty-three (63) percent of the 314 followed cases showed recurrence as distinct from new varicosities.

Other authors vary in their estimates of recurrences. As stated in my previous article, Howard, Jackson and Mahon (8) made the startling statement that there was recurrence in 98 percent of their cases within a year or more. De Takats (9) gives the recurrence figure as about 10 percent within a year; Jensen, 8.5 percent; Gillespie and Strobel report 30 percent recurrences in 155 patients followed for more than 1 year; Kern (10) 10 percent within 18 months; Janz (11) in from 15 to 20 percent; Maingot (12) says that recanalizations are as high as 30 percent with

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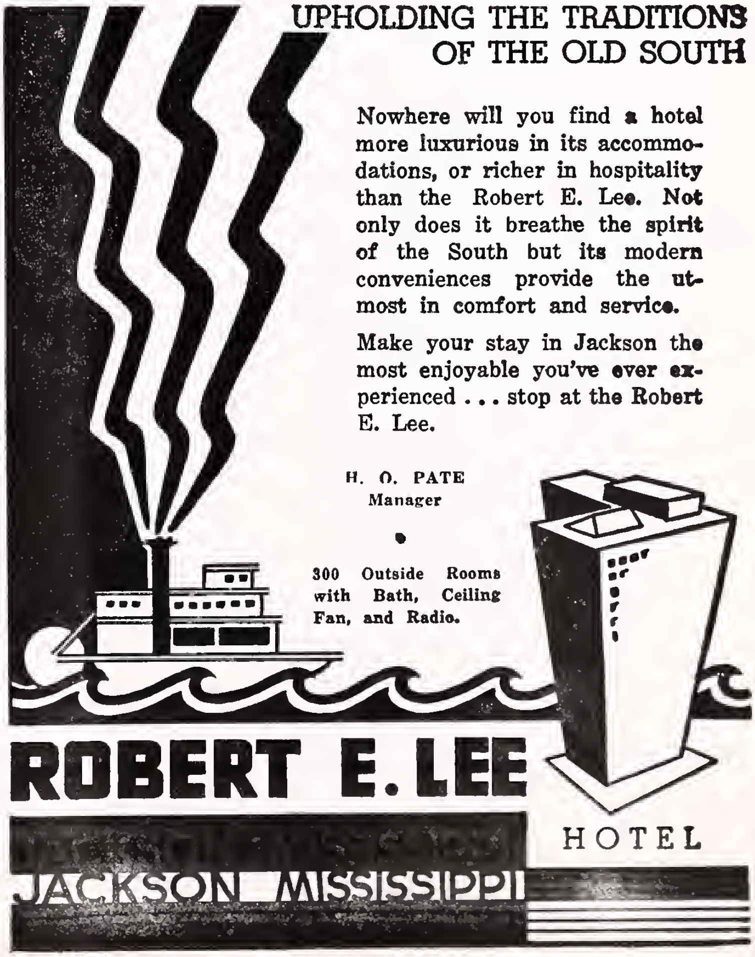

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sodium morrhuate injections. Bassett (13) has seen a case of extensive varicose veins treated with sodium salicylate recur 6 years later.

True recurrence or recanalization of veins obliterated by injection must not be confused with the appearance of new varicosities which are likely to arise in this class of patient. The underlying cause or causes not being removed, the development of new varicosities is easily understood. Faxon in his 314 followed patients found new varices in 25 percent. Lewis, on the basis of 848 patients treated with a total of 3532 injections, says that in his experience, recurrences, are infrequent and should not be confused with the formation of new varicosed veins; he has seen a number of such cases a year or so after the careful thrombosis of all existing varicosities and thinks that a certain number of varicose vein patients have a definite tendency to form other varicose veins later on.

There are two matters which directly affect recanalization of thrombi, namely the method of their formation and the high ligation of the saphenous vein. In pathological studies of injected veins, Lufkin and McPheeters (14) express the opinion that recurrences probably result from retraction of the clotted portion of the mass from the vessel wall between tributaries of the main channel, with re-establishment of the circulation through the new channel. This is to say that although, theoretically, the deposition thrombus formed by injury to the vessel endothelium is believed to close the lumen of the vessel completely so that when it becomes organized it will obliterate the vessel entirely, yet actually the thrombus does not grow after deposition and cleft-like spaces are found to form between the vessel intima and the blood mass filling the lumen. Furthermore. a great portion of the thrombus is formed of simple clot which normally retracts easily and gives rise to the spaces referred to.

For the obviation of recurrences, de Takats and Quillin (15) recommend high ligation of the saphenous vein in conjunction with injection of the varicose veins. High saphenous ligation protects the treated veins from the fluctuations of abdominal pressure and also from the fluctuations hydrostatic pressure, thus preventing recanalization of the thrombi. It also reduces the number of injections and places the occluding ligature close up to the saphenofemoral junction. The end results of the authors' combined operation showed a far smaller percentage of recurrences than was obtained in any other method of treatment of varicose veins; they consider that high ligation is indicated in valvular incompetence of the long saphenous vein above the lower third of the thigh or in valvular incompetence of its anastomotic or communicating branches if they resist injection treatment. Injections should not be made at the time of ligation but after it. Faxon also considers that primary high ligation of the main saphenous trunk, when this is varicosed, is a necessary adjunct to the injection method. On the other hand, Jensen does not see any advantage in ligaturing the saphenous vein below Poupart's ligament. His results have been entirely satisfactory when the saphenous vein was injected at its high point in the thigh; he thinks that there should be less danger from the sclerosing clot which forms when a vein is ligated. Dickson-Wright (16), in over 100 cases in which he ligated the "parent" and most prominent of a group of varicose veins after they had been first injected, saw no recurrences nor any other complications. McPheeters, Merkert and Lundbald (17) consider that it is essential that the saphenous veing should be thrombosed up to the saphenofemoral ring to produce a lasting result.

No sclerosing solution has yet been proposed that is absolutely free from all shortcomings. Intravenous sclerosing agents should be painless, innocuous, noncaustic and possess rapidity of action. As yet, no one solution satisfies all requirements. The degree and extent of vascular change, of vascular destruction depend to a great extent upon the particular sclerosing agent employed. Following the injection, there occurs an inflammatory reaction to the chemical trauma, consisting of (a) endothelial injury, (b) oedema and leucocytic infiltration of the media and (c) dilation of the vasa vasorum of the adventitia.

In regard to the many solutions used, while sodium salicylate, dextrose and urea with urethane are still preferably used by the majority of physicians, certain new solutions are brought to light in the literature, especially sodium morrhuate. Treves-Barker (18) uses a 20 percent sodium chloride solution combined with an extract from saponified cod-liver oil, a non-caustic hypertonic mixture which he claims avoids the tendency of salt solutions to cause sloughs. In France, Jausion and his associates (19) recommend a mixture of glycerine and chrome alum. They claim this mixture to be non-toxic, non-caustic and rapid in action. Clinical experience has not substantiated their claims and do not warrant the general or extended use of glycerine and chrome alum.

The use of sodium morrhuate as a sclerosing agent originated in England. Cooper (20) has used a 5 percent solution in more than 600 patients and considers it much less irritating than the commonly used solution. The only untoward reaction noted by Cooper was an occasional transitory mild to moderate dermatitis with pruritus. It did not cause toxic symptoms. Smith (21) in more than 2,000 injections has not seen a single slough and says that the incidence of recurrence is less than with any other solution. Tunick and Nach (22), based on about 600 injections, state that the morrhuate does not cause cramp or pain; nor is it destructive to tissue and is, therefore, least likely to produce tissue necrosis if accidentally injected perivenously. They used an average dose of 2 cc., Tournay (23) thinks that the morrhuate injection is good when rapid treatment is necessary. It may be used in a 5 or 10 percent solution, about 1.5 cc. being injected. But he remarks that a firm and solid fibrosis is not produced and that there are more recurrences. Schubert (24) finds morrhuate as ef-

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ficacious for vein effacement as salt or sugar solutions and without their after effects. It can be used in stellate or "spider-burst" veins. Irrespective of the sclerosing agent employed, one must never forget that the injection is to be intravenous not peri- or paravenous. The bevel of the needle must not be too long, otherwise the vein is liable to be transfixed. Commence the injections distally. It is important that the solution come in contact with the intima of the varix. Blood is aspirated in the barrel of the syringe to be sure that the needle is well within the vein.

A scientific comparative study of the effects of 20 different solutions has been made by Ochsner and Garside (25), the experiments being made on dogs, with 348 histological examinations showing the conditions at varying periods after the injection. Sodium salicylate (40 percent) produced the greatest injury to the vein and the largest number of thrombi.

Combining the results if this experimental investigation with clinical experience, the authors feel that of the group of agents studied, invertose, 75 per cent or combined with saccharose 5 percent, should be employed for routine clinical use; if these fail, quinine and urea hydrochloride and the right concentrations of sodium salicylate should be used. Kilbourne, Dodson and Zeiler (26) also studied the toxicity, slough-producing and bactericidal action of different solutions. They found that sugar derivatives and sodium chloride are non-toxic and relatively painless; their use has been associated with an incidence of deaths from infection and embolism not found with quinine-urethane; they are not bactericidal or self-sterilizing. Sodium salicylate is efficient as a sclerosing agent; it is bactericidal to staphyloccoccus aureus only in strong solutions; it may cause a painful cramp after injection and the sloughs which it makes when injected in the peri-vascular tissues are more serious than those following dextrose and sodium chloride. Quinine urethane is highly efficient as a sclerosing agent and even when diluted is bactericidal to staphylococcus aureus; it prevents phlebitis and embolism; it may be slightly toxic to occasional patients and when injected out of the vein does not give the warning of pain caused by other solutions. In expert hands, the authors consider it as the solution of choice. Sodium morrhuate is not a toxic solution and, if injected out of the vein, the slough which it makes is not so serious as those caused by sodium salicylate or quinine; it is not, however, bactericidal or self-sterilizing. The author's remark that the number of deaths from embolism and sepsis following injections for varicose veins has increased in recent years and that the majority of these iccurred with sugar or sodium chloride soluitons. But these are not the only solutions that may be incriminated. The London correspondent of the J. A. M. A. (27) reported 2 deaths following sodium morrhuate injections. Linser (28) remarks that if fatal embolisms do occur, they are due to faulty technic.

The necessity of using a bactericidal solution is emphasized by the fact noted both by de Takats (29) and Jacques (30) that the trauma of an injection may activate a resting infection in the walls of a varicose vein.

Biegeleisen (31) calls attention to a method for the rapid detection of a perivascular mishap in injecting. He uses a salicylate solution to which 0.4 percent methylene blue has been added. If there is any perivascular mishap the area is at once discolored and detected. Immediate aspiration and diluting the place with saline solution will minimize tissue destruction and sloughing.

The matter of varicose ulcers calls for a few words. Weeks and Mueller (32) treated 53 varicose ulcers by injection, the majority of which had never at any time healed prior to the injection treatment and many were of very long standing. Forty-seven (47), equal to 88.7 percent, healed, the average healing time being 6 weeks. These patients have been under observation for an average period of 12 months. Four (4) ulcers reopened and were rehealed by subsequent treatment. In the series treated by Lewis there were 94 ulcer cases, 84 of which healed.

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No embolus developed. In Faxon's series 61 percent of the ulcers healed. In Jensen's 354 cases 15 percent presented varicose ulcers. The majority of those healed promptly following obliteration of the large varicosed vein and reestablishment of adequate nutrition to the tissues. A well applied bandage by exerting compression helps to overcome the oedema, the supersaturation of the tissues. In Kettel's series, 72 out of 94 patients with varicose ulcers were healed and 52 of these showed the healed condition to continue for periods of from 1 to 5 years.

In conclusion it may be said that, concerning the injection method of treating varicose veins that it is applicable at all ages, is now widely used by the general practitioner, is favored by the progressive surgeon and has fully justified itself by its results. The method has potential dangers which can be obviated by the careful clinical study and preparation of each case. In office practice, especially it is necessary to make sure of strict asepsis, to have at hand all the necessary equipment and accessories and a sufficient personnel.

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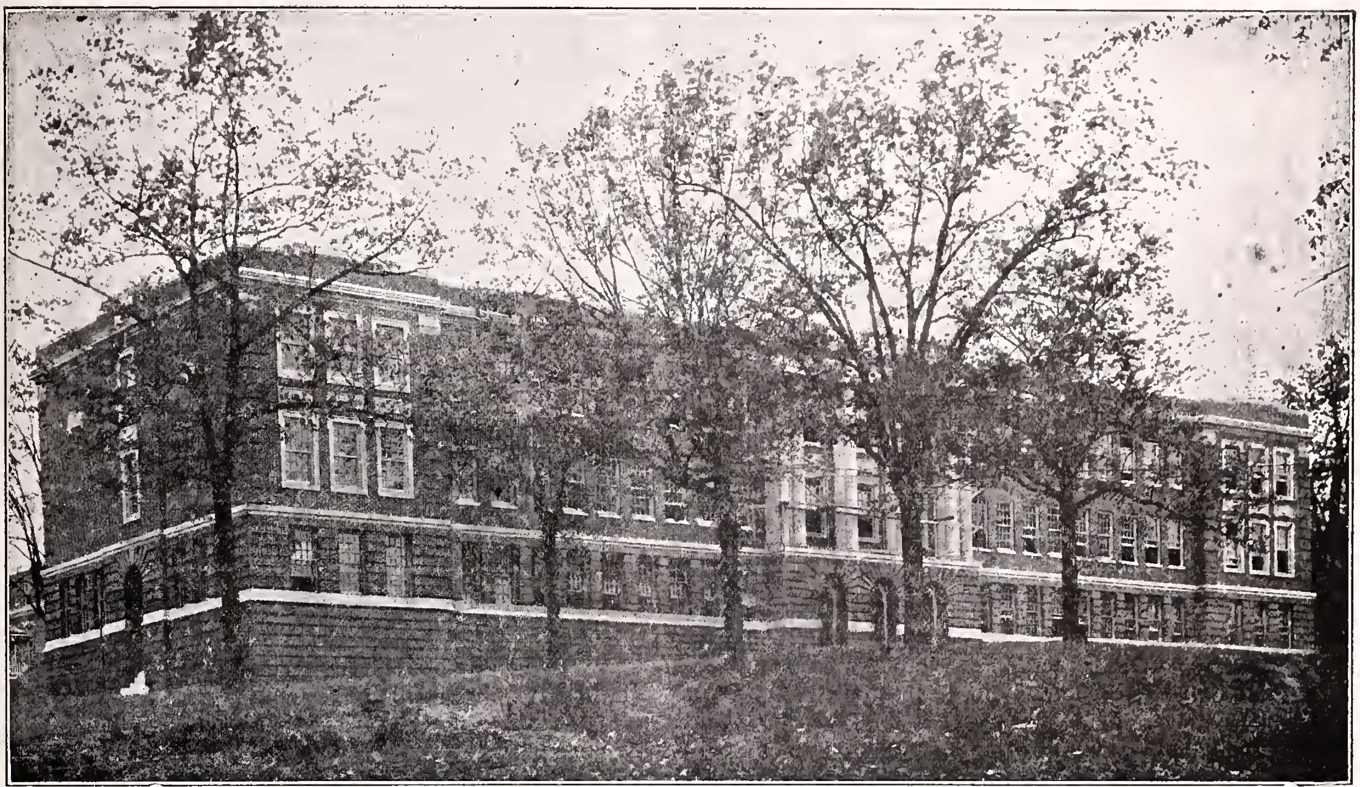

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LAWRENCE T. LOWREY, PRESIDENT

OFFICIAL PROGRAM
Sixty-Seventh Annual Session

Mississippi State Medical Association

Eola Hotel, Natchez
MAY 8, 9, 10, 1934

* * *

Thirty-First Annual Session
HOUSE OF DELEGATES
Will Meet May 8, 8:00 a. m.

* * *

WOMAN'S AUXILIARY

* * *

MISSISSIPPI STATE HOSPITAL ASSOCIATION

Officers, 1933-1934

President, J. W. D. Dicks, Natchez.
President-Elect, E. C. Parker, Gulfport.
Vice-Presidents, E. R. Nobles, Rosedale; J. A. K. Birchett, Jr., Vicksburg; C. C. Hightower, Hattiesburg.
Speaker of the House, J. P. Wall, Jackson.
Historian (Acting), L. S. Lippincott, Vicksburg.
Editor, L. S. Lippincott, Vicksburg.
Associate Editors, Two years, J. S. Ullman, Natchez; One year, D. W. Jones, Jackson.
Treasurer, E. LeRoy Wilkins, Clarksdale.
Secretary, T. M. Dye, Clarksdale.

COUNCIL

First District, J. W. Lucas, Moorhead.
Second District, L. L. Minor, R4, Memphis, Tenn.
Third District, M. W. Robertson, Corinth.
Fourth District, T. J. Brown, Grenada.
Fifth District, W. H. Watson, Pelahatchie.
Sixth District, H. Lowry Rush, Meridian.
Seventh District, Joe E. Green, Laurel.
Eighth District, W. H. Frizell, Secretary, Brookhaven.
Ninth District, D. J. Williams, Chairman, Gulfport.

EX-PRESIDENTS

1892-93	W. G. Kiger, Brunswick.
1894-95	P. W. Rowland, Oxford.
1895-96	H. H. Haralson, Vicksburg.
1903-04	C. D. Mitchell, Fondren.
1906-07	W. W. Crawford, Hattiesburg.
1908-09	J. W. Gray, Clarksdale.
1909-10	D. W. Jones, Jackson.
1911-12	D. J. Williams, Gulfport.
1912-13	S. W. Glass, Lyon.
1913-14	L. C. Feemster, Tupelo.
1914-15	J. S. Ullman, Natchez.
1915-16	I. W. Cooper, Meridian.
1916-17	T. M. Dye, Clarksdale.
1917-18	Willis Walley, Jackson.
1919-20	F. J. Underwood, Jackson.
1920-21	J. W. Barksdale, Jackson.
1921-22	Henry Boswell, Sanatorium.
1922-23	S. W. Johnston, Vicksburg.
1923-24	W. A. Dearman, Gulfport.
1925-26	G. S. Bryan, Amory.
1926-27	T. E. Ross, Hattiesburg.
1927-28	John Darrington, Yazoo City.
1928-29	W. H. Frizell, Brookhaven.
1929-30	H. A. Gamble, Greenville.
1931-32	J. C. Culley, Oxford.
1932-33	J. M. Acker, Jr., Aberdeen.

Luncheon for Ex-Presidents at 12:30 p. m.
Wednesday, May 9, 1934
W. S. Leathers, President 1918-19, Guest of Honor

EXECUTIVE BUSINESS

Tuesday, May 8, 8:00 a. m.
Meeting of Council and House of Delegates
Roof Garden Eola Hotel
Subsequent Meetings will be Arranged by the House

GENERAL MEETING—FIRST DAY

Tuesday, May 8, 1934
Roof Garden Eola Hotel
Session 1:30 p. m. to 6:00 p. m.

OPENING EXERCISES

1. Call to Order, President J. W. D. Dicks, Natchez.
2. Invocation, Rev. Joseph Kuehnle, Natchez.

SECTION ON SURGERY

L. B. Oaken, Chairman, Greenwood

1. The Role of Glucose in Surgery, P. B. Brumby, Lexington. Discussion opened by Paul Gamble and J. P. Wall.
2. The Present Status of Surgery in Gall-Bladder Disease—Leslie V. Rush, Meridian. Discussion opened by A. G. Payne and A. E. Gordin.
3. Some Problems Frequently Encountered in the Treatment of Fractures—H. Earl Conwell, Fairfield, Alabama.
4. Stricture of Ureter—Robt. H. Brumfield, McComb. Discussion opened by Frank Van Alstine and J. A. K. Birchett, Jr.
5. Carcinoma of the Breast and What is Before Us—Otis H. Beck, Greenville. Discussion opened by W. W. Crawford and E. C. Parker.
6. Appendicitis During Pregnancy—J. P. Culpepper, Jr., Hattiesburg. Discussion opened by J. W. Barksdale and J. C. Culley.
7. Retrocaecal Appendices—Thomas Wolford, Columbus. Discussion opened by August Street and T. G. Hughes.
8. Treatment of Oesophageal Strictures With Air and Water Pressure—J. C. Rice, Natchez. Discussion opened by Robin Harris and D. C. Montgomery.

EVENING SESSION—EIGHT O'CLOCK

Tuesday, May 8, 1934
The Public Is Cordially Invited
J. S. Ullman, Master of Ceremonies

1. Invocation—Rev. George Booth, Natchez.
2. Addresses of Welcome: On Behalf of the City of Natchez. Mayor S. B. Laub; On Behalf of the Homochitto Valley Medical Society, J. C. Rice, Natchez.
3. Response to Addresses of Welcome—President-Elect, E. C. Parker, Gulfport.
4. In Memoriam—By the Secretary.
5. President's Address—J. W. D. Dicks, Natchez.
6. Annual Oration—J. M. T. Finney, Baltimore.

SECTION ON EYE, EAR, NOSE AND THROAT

Wednesday, May 9, 1934
H. L. Arnold, Chairman, Meridian
Gold Room—Natchez Hotel
Session 9:00 a. m. to 12:30 p. m.

Chairman's Address—H. L. Arnold, Meridian.

1. Chronic Sinusitis—W. L. Hughes, Jackson. Discussion Opened by C. A. McWilliams and R. T. Smith.

2. Glaucoma—K. W. Constantine, Birmingham, Ala. Discussion opened by B. S. Guyton and J. C. Pegues.

3. Dietary and Glandular Deficiencies in Eye, Ear, Nose and Throat Diseases—D. W. Hamrick, Corinth. Discussion opened by J. P. Wiggins and Edley H. Jones.

4. Follicular Conjunctivitis—W. F. Cotten, McComb. Discussion opened by B. H. Pegram and E. Q. Withers.

5. Acute Infections of the Antrum—G. W. Bounds, Meridian. Discussion opened by L. S. Gaudet and Geo. E. Adkins.

6. Summary of Refractive Conditions and Causes of Blindness in Mississippi—A. G. Wilde, Jackson. Discussion opened by C. C. Buchanan and L. W. Dotson.

7. The Acute Mastoid—R. A. Clanton, Grenada. Discussion opened by E. LeRoy Wilkins and J. C. Adams.

Luncheon. Round Table Discussion on Eye Conditions led by K. W. Constantine.

SECTION ON HYGIENE AND PUBLIC HEALTH

Wednesday, May 9, 1934

R. D. Dedwylder, Chairman, Cleveland
Roof Garden—Eola Hotel

Session 9:00 a. m. to 12:30 p. m.

1. Some Observations on the Newer Methods of Malaria Control—A. M. Wynne, Merigold. Discussion Opened by Geo. E. Riley and Geo. W. Owen.

2. An Analysis of the Hookworm Problem in Mississippi—W. S. Leathers, Nashville, Tenn. Discussion opened by H. F. Garrison and D. A. Ratliff.

3. A Practical Tuberculosis Case-Finding Program—B. D. Blackwater, Hattiesburg. Discussion opened by V. B. Harrison and T. Paul Haney, Jr

4. The Importance of an Epidemiological Investigation—A. L. Gray, Jackson. Discussion opened by H. L. McCalip and N. F. Kendall.

SECTION ON MEDICINE

Wednesday, May 9, 1934

W. H. Frizell, Chairman, Brookhaven
Roof Garden—Eola Hotel

Session 2:00 p. m. to 6:00 p. m.

1. The importance of History Taking and Complete Examination—A. B. Harvey, Tylertown Discussion opened by H. L. Rush and O. N. Arrington.

2. Congenital Syphilis—Guy C. Jarratt, Vicksburg. Discussion opened by R. E. Wilson and Joe E. Green.

3. The Handicapped Child—B. S. Waller, Silver Creek. Discussion opened by D. W. Jones and Felix J. Underwood.

4. Allergic Phenomena—Geo. W. F. Rembert, Jackson. Discussion opened by W. A. Dearman and B. B. McLean.

5. Lambliasis (Giardiasis)—A. H. Little, Oxford. Discussion opened by J. M. Acker, Jr., and G Y. Gillespie, Jr.

(To be continued Thursday morning)

SPECIAL SESSION—7:30 p. m.

Wednesday, May 9, 1934
Roof Garden—Eola Hotel

Medical Care in The Family Budget—C Rufus Rorem, Ph.D., Chicago.

SECTION ON MEDICINE

(Continued from Wednesday)

Session 9:00 a. m. Until Completed

6. The General Practitioner and Tuberculosis—Henry Boswell, Sanatorium. Discussion opened by W. A. Toomer and S. E. Eason.

7. The Principles Underlying the Rational Treatment of Malaria—William Krauss, Meridian. Discussion opened by L. B. Austin and W. B. Dickens.

8. The Physician of Yesterday and Today—Jas. S. McLester, Birmingham, Ala.

HOUSE OF DELEGATES

PROGRAM

Woman's Auxiliary

EOLA HOTEL

Tuesday, May 8
3:00 p. m. Meeting of Executive Board.
Wednesday, May 9
9:00 a. m. Opening General Session (All Invited)
Invocation—Dr. George D. Booth, Natchez.
Address of Welcome—Mrs. Edwin Benoit, Natchez.
Response to Address—Mrs. C. C. Hightower, Hattiesburg, President South Mississippi Auxiliary.
Order of Business:
Report of Officers and Standing Committees.
Message from Dr. J. W. D. Dicks, President State Association.
Message from Dr. E. C. Parker, President-Elect State Association.
Report of Delegates to A. M. A. Auxiliary.
Report of Delegates to Southern Auxiliary.
2:00 p. m. Drive Over Historic Natchez (Doctors Invited). Cars leave Pearl Street entrance Eola Hotel Promptly.
Wednesday, May 9
6:00 p. m. Tea at D'Evereux (Home of Dr. and Mrs. Raymond Smith).
Thursday, May 10
9:00 a. m.
Invocation—Dr. George D. Smith, Natchez.
Roll Call and Report of Auxiliaries.
Report of Committees.
Election of Officers and Introduction.
Adjournment.

Post Convention Board Meeting—Mrs. Henry Boswell Presiding.

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FIFTH ANNUAL SESSION

Mississippi State Hospital Association

NATCHEZ, MISSISSIPPI

OFFICERS—1933-1934

President—R. J. Fields, M.D., Centreville

Vice-President—V. B. Philpot, M.D., Houston.

Secretary-Treasurer—Leon S. Lippincott, M.D., Vicksburg.

Board of Directors: R. J. Field, M.D., Centreville; Leon S. Lippincott, M.D., Vicksburg; J. Gould Gardner, M.D., Columbia; G. D. Stanley, Greenville.

MONDAY MORNING—MAY 7, 1934

All members of the Mississippi State Medical Association are cordially invited and urged to attend all sessions including the banquet.

8:00 a. m. Registration (Eola Hotel)

9:00 a. m. Meeting called to order by the President, Dr. R. J. Field, Field Memorial Hospital, Centreville (Roof Garden, Eola Hotel)

1. Community Hospitals—Dr. C. M. Speck, New Albany Hospital, New Albany, Chairman. Discussion opened by Dr. E. R. Nobles, Rosedale, Chairman Committee on Community Hospital Legislation of the Mississippi State Medical Association, and Dr. J. R. Hill, Corinth.

2. Legislation—Dr. H. A. Gamble, King's Daughter's Hospital, Greenville, Chairman. Discussion opened by Dr. Felix J. Underwood, Jackson and Dr. L. W. Brock, McComb Infirmary McComb.

3. Charity Hospitals—Dr. B. B. Martin, Vicksburg Infirmary, Vicksburg, Chairman. Discussion opened by Dr. G. Lamar Arrington, Matty Hersee Hospital, Meridian, and Dr. C. A. Everett, Natchez Hospital, Natchez.

4. Insane Hospitals—Dr. H. Lowry Rush, Rush's Infirmary, Meridian, Chairman. Discussion opened by Dr. M. J. L. Hoye, East Mississippi State Hospital, Meridian, and Dr. Charles D. Mitchell, Mississippi State Hospital, Jackson.

5. Membership—Dr. A. M. McCarthy, Geo. C. Hixon Memorial Hospital, Electric Mills, Chairman. Discussion opened by Dr. Frank P. Ivy, Ivy Hospital, West Point, and Dr. N. C. Womack, Jackson Infirmary, Jackson.

6. Public Relations—Mr. W. Hamilton Crawford, South Mississippi Infirmary, Hattiesburg, Chairman. Discussion opened by Dr. V. B. Philpot, Houston Hospital, Houston, and Miss Mary H. Trigg, R.N., Greenwood-Leflore Hospital, Greenwood.

7. Minimum Standards—Dr. W. Jeff Anderson, Anderson Infirmary, Meridian, Chairman. Discussion opened by Dr. J. Gould Gardner, Columbia Clinic Hospital, Columbia, and Dr. George E. Brown, Water Valley Hospital, Water Valley.

8. Nurses and Nursing—Dr. A. Street, Vicksburg Sanitarium, Vicksburg, Chairman. Discussion opened by Mr. G. D. Stanley, King's Daughters' Hospital, Greenville, and Miss Lou Lord, Secretary, Mississippi State Board of Nurses Examiners, Hattiesburg

9. Constitution and By-Laws—Dr. J. S. Ullman, Natchez Sanatorium, Natchez, Chairman.

Discussion opened by Miss Sue Collins, R.N., Biloxi Hospital, Biloxi and Dr. M. Q. Ewing, Gilmore Sanitarium, Amory.

10. Publication—Dr. W. H. Anderson, Booneville, Chairman. Discussion opened by Dr. V. B Martin, Martin Sanatorium, Picayune, and Dr. J. K. Avent, Grenada Hospital, Grenada.

Reports of Representative to the Conference of the Trustees of the American Hospital Association with the Presidents and Secretaries of State and Regional Hospital Associations and to the Council on Medical Education and Hospitals of the American Medical Association.

New Business.

Report of the Nominating Committee and Election of Officers.

Adjournment.

The Hospital Associations of Arkansas, Louisiana, Tennessee will each meet separately at the same time.

MONDAY AFTERNOON, MAY 7, 1934—2:00 p. m.

JOINT SESSION OF THE HOSPITAL ASSOCIATIONS OF ARKANSAS, LOUISIANA, MISSISSIPPI AND TENNESSEE

Roof Garden—Eola Hotel

R. J. Fields, M.D., President, Mississippi State Hospital Association, Presiding.

1. Subject: Arkansas Hospital Association.
2. Group Hospitalization—Round Table Discussion. Dr. B. C. MacLean, Touro Infirmary, President, Louisiana Hospital Association, New Orleans, Leader.
3. Subject: W. Hamilton Crawford, South Mississippi Infirmary, Hattiesburg.
4. Hospital Publicity—B. P. Moffatt, Methodist Hospital, Secretary, Tennessee Hospital Association, Memphis.
5. Business.
6. Adjournment.

Bert W. Caldwell, M.D., Executive Secretary, American Hospital Association, Chicago, and C. Rufus Rorem, Ph.D., Associate Director of Medical Services, Julius Rosenwald Fund, and Consultant on Group Hospitalization for the American Hospital Association, Chicago, will be guests at the afternoon session and take part in the discussions.

MONDAY EVENING, MAY 7, 1934—6:45 p. m.

Banquet—Roof Garden, Eola Hotel

Dr. Louis J. Bristow, Baptist Hospital, Vice-President, Louisiana Hospital Association, New Orleans, Toastmaster.

Speakers: Dr. Bert W. Caldwell, Chicago; Dr. C. Rufus Rorem, Chicago.

All members of the Mississippi State Medical Association are cordially invited and urged to attend all sessions including the banquet.

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6
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899 Madison Avenue
Memphis, Tennessee

Minutes of the Meeting of The Delta Medical Society

CLEVELAND, MISS., APRIL 11 1934

The Society was called ot order at 2:00 p. m. by the President, Dr. R. C. Smith, at the Broom Memorial Auditorium of the Delta State Teachers' College. The invocation was said by Dr. I. D. Eavinson, pastor of the Baptist Church of Cleveland, Mississippi. An address of welcome was given by Mr. Joe P. McCain of Cleveland, and the response by Dr. A. G. Payne of Greenville. In order to allow our guest-essayist to depart on an early train, the scientific program was next taken up.

A paper "Prophylactic External Version" was given by Dr. John Lucas of Greenville and was discussed by Dr. C. W. Patterson of Rosedale.

A paper "Migraine" was read by I. B. Bright of Greenwood. It was discussed by Dr. C. P. Thompson, Dr. T. B. Holloman, and the discussion was closed by Dr. Bright.

Next was a talk by our guest essayist, Dr. Ray M. Balyeat of Oklahoma City, Oklahoma, who gave an illustrated lecture on "Allergic Diseases: Diagnosis and Treatment," which was very greatly enjoyed and proved most interesting and instructive being illustrated by lantern slides.

A paper "The Bite of the Lactodectus Mactans (T-Dot Spider)" was given by Dr. T. J. Barkley of Isola and was discussed by Dr. Scudder of Mayersville, a guest from the Sharkey, Issaquena, Warren Counties Medical Society.

A paper "Report on Syphilitic Project Conducted at Scott, Mississippi" was given by Dr. I. I. Pogue of Scott.

A paper "The Effect, On the Human Body, of Changes in Barometric Pressure" was given by Dr. N. B. Cottrell of Indianola.

Immediately following the scientific program the business session was gone into. The President, Dr. Smith, acknowledged the presence of numerous guests and welcomed them. Among those present were: President-elect of the State Association, Dr. Parker of Gulfport; Dr. Felix Underwood, of Jackson, of the State Health Department; Dr. T. M. Dye, Secretary of the State Association and active in the Clarksdale and Six-Counties Medical Society, together with many members of the Clarksdale and Six-Counties Medical Society, including its President, Dr. L. N. Brevard of Dundee; several doctors from Memphis; and guests from several other counties adjacent to the territory of the Delta Society.

The minutes of the previous meeting held at Belzoni, Miss., October 11, 1933, were read by the Secretary and stood approved as read. The Treasurer's report was read and approved.

On a motion of Dr. Fields of Shaw, duly seconded, the Society unanimously passed resolutions of respect on the death of a former member, Dr. T. D. Allen, and the President was asked to appoint a committee to draw up suitable resolutions in this regard.

The Secretary then read a report of a special committee that had been appointed by the President to work with a committee from the Clarksdale and Six-Counties Medical Society in the matter of the consolidation of the two Societies. A brief summary and outline of the work of that joint committee was given by the Secretary and by the other member of the committee from the Delta Society, Dr. E. R. Noble of Rosedale, and it was moved and seconded that the action recommended by the committee be approved by the Society, to-wit:

> "That the Delta Medical Society join with the Clarksdale and Six-Counties Medical Society to form a new Society in accordance with the resolutions passed by the Clarksdale and Six-Counties Medical Society."

This motion was freely discussed and it was voted unanimously that the Delta Medical Socity unite with the Clarksdale and Six-Counties Medical Society to form a new Delta organization. At this juncture, the members of the Clarksdale and Six-Counties Medical Society present at our meeting were requested to join in the discussion from this point on, since it had to do with the new organization of which the members of the Clarksdale and Six-Counties Medical Society were to form a very great part.

The Constitution and By-laws were read by sections by the Secretary and were adopted as read with the exception that Section 4, Chapter 2, of the By-laws was changed so that the last sentence of that Section, "The Secretary-Treasurer shall receive a yearly compensation of $50.00," was stricken out.

Officers for the new Society were then elected with the following results:

President, Dr. R. C. Smith, Drew; President-elect, Dr. L. N. Brevard, Dundee; Vice-presidents, Dr. J. D. Simmons, Gunnison, Bolivar, Dr. A. M. Gill, Sidon, Leflore, Dr. J. W. Jackson, Belzoni, Humphreys, Dr. B. N. Higdon, Sunflower, Sunflower, Dr. D. C. Montgomery, Greenville,, Washington, Dr. I. P. Carr, Clarksdale, Coahoma, Dr. N. G. Johnson, Tunica, Tunica, Dr. E. A. McVey, Lambert, Quitman, Dr. J. A. Harris, Webb, Tallahatchie; Secretary-Treasurer, Dr. F. M. Acree, Greenville.

The question of financing the new organization was then taken up and the following resolutions were offered by Dr. V. B. Harrison of the Clarksdale and Six-Counties Medical Society and were unanimously passed:

Whereas, The Delta Medical Society and the Clarksdale and Six-Counties Medical Society have a substantial treasury balance, and

Whereas, After the consummation of the proposed merger the separate treasuries will become joint, and

Whereas, On recommendation of the Mississippi State Medical Association each component county in the two Societies have organized a county medical society for administrative purposes, and

Whereas, The newly organized county medical society may want to hold scientific programs but are handicapped by the absence of an adequate treasury

Therefore, Be It Resolved That:

(1) The two separate Societies set aside from their respective treasuries a like amount to be known

JAMES B. STANFORD, M.D., F.A.C.S.
Practice limited to Diseases of the Eye
899 Madison Avenue
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Memphis, Tennessee

as the treasury of the new Delta Medical Society.

(2) That the remainder of the respective treasury balance of the two Societies be divided equally among the new component counties on a ratio per membership in the present Societies.

(3) That the amount to be paid into the new Delta Medical Society be one dollar and a half ($1.50) per paid membership in the respective two Societies.

V. B. HARRISON, M.D ,
Secty, Clarksdale & Six-Counties Medical Society

The meeting then adjourned to the American Legion Hut, to attend a delightful banquet presided over by Dr. E. R. McLean, the High-Sheriff.

DR. F. M. ACREE,
Sec.-Treas. Delta Medical Society.

Tentative Program

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

HEADQUARTERS—WADE PARK MANOR
Cleveland, Ohio
June 7, 8, 9, 1934

Thursday, June 7

Morning—
Registration, Wade Park Manor.
Clinics. Hospitals of Cleveland.

Afternoon—Ball Room, Wade Park Manor
Symposium—Hyperthyroidism.

1:30 Dr. Stuart Gordon, Toronto, Canada. "Clinical Hyperthyroidism in the Presence of Normal B. M. R."

1:50 Dr. Urban Maes, New Orleans, La. "Hyperhtyroidism in the Negro."

2:10 Dr. H. M. Clute, Boston, Mass. "Hyperthyroidism in the Aged."

2:30 Dr. Edward H. Rynearson, Rochester, Minn. "Oxygen Content of the Blood in Hyperthyroidism."

2:50 Intermission.

2:55 Dr. Sam Haines, Rochester, Minn. "Iodine in Reccurent Exophthalmic Goiter."

3:15 Drs. Henry K. Ransom and Robert H. Bayley, Ann Arbor, Mich. "Thyroid Crisis."

3:35 Dr. W. F. Rienhoff, Jr.. Baltimore, Md. "The Histological structure of the Thyroid in Patients Cured of Hyperthyroidism by Operation."

3:55 Intermission.

4.00 General Discussion.

Evening—Academy of Medicine—

8:00 Dr. Herman L. Blumgart, Boston, Mass. "Indications, Contraindications and End Results in Treating Various Forms of Cardiovascular Disease by Complete Removal of the Thyroid."

Dr. L. J. Karnosh, Cleveland, Ohio. "Psychoses in Hypothyroidism and Hyperthyroidism."

Dr. R. M. Howard, Presidential Address.

Second Day—Friday, June 8

Morning—

9:00 The University Hospitals. Clinics. Demonstrations. Short Papers.

Afternoon—Wade Park Manor—

1:30 Dr. Arnold Jackson, Madison, Wisconsin. "A Survey on Cretinism in the United States."

1:50 Dr. H. L. Foss, Danville, Pa. "A Review of our Modern Concepts of the Physiology and Pathology of the Thyroid Gland."

2:10 Dr. Claude J. Hunt, Kansas City, Mo. "Intrathoracic Goiter." (Case Report and Slides)

2:30 Intermission.

2:35 Dr. Julian Johnson, Philadelphia, Pa. "An Experimental Study of the Function of the Superior Laryngeal Nerve and its Practical Application."

2:55 Dr. George M. Curtis, Columbus, Ohio. "Blood Iodine."

3:15 The VanMeter—Prize Award Essay.

3:35 Intermission.

3:40 General Discussion.

Evening—Wade Park Manor—

7:30 Annual Dinner (Informal).

Dr. George W. Crile, Cleveland, Ohio. "Comparative Studies of the Thyroid Gland in Animals."

Prof. Francis H. Herrick, Cleveland, Ohio. "Life History of the American Eagle." (Movie)

Third Day—Saturday, June 9

Morning—

9:00 The Cleveand Clinic. Clinics. Demonstrations. Short Papers.

11:30 Annual Meeting of the Association.

12:00 Luncheon.

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Clinic—Internal Medicine
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A Discussion of the Recurrent Toxemias of Pregnancy

DR. PHIL C. SCHREIER
Memphis, Tenn.

While the laboratory researches have pursued the etiological factor of the toxemias of pregnancy there has been in progress a colossal clinical investigation incorporated in the prenatal program. The result of this clinical research is now being crystalized and reveals a modified picture of the late toxemias of pregnancy.

Of particular interest is the condition commonly referred to as recurrent toxemia, the intensive study of which has contributed to a marked alteration of the conception of hypertensive albumenuric toxemias. The following cases are examples of this condition and present the problems to which I wish to devote this discussion:

Case 1: A. W. colored, age 18. Seen in fifth month of first pregnancy with blood pressure of 130-70, otherwise negative. During the pregnancy blood pressure rose to 150/80 and urine contained 2 plus albumen on one occasion, being negative on all other examinations. Delivery was normal. Six months later she was found to be six weeks pregnant with blood pressure 120/70. Was not seen again in this pregnancy. Third pregancy began four months after delivery of second child. During this pregnancy blood pressure rose from 100/60 to 150/90. Normal delivery. Her fourth pregnancy began 20 months later and when seen in the third month blood pressure was 140/80. She is now under observation for this pregnancy and blood pressure has risen to 150/80 in the sixth month and urine contains a trace of albumen.

This is a typical low grade recurring toxemia returning to normal between pregnancies. In her present pregnancy the blood pressure is rising earlier than the previous ones.

Case 2: Mrs. T. H. B., white, age 25, First pregnancy was normal according to history. During second pregnancy blood pressure rose to 145/80 and urine remained negative. Delivery was normal in June, 1931. Six weeks later blood pressure 150/90. In Sept., 1932 fifteen months after previous delivery she was found to be three months pregnant with blood pressure 150/80 and this rose to 190/110. Urine contained 1 plus albumen. In Dec. 1932 when six months pregnant she expelled a dead ovum. This patient has now well defined cardiac disease For several years an enlarged thyroid has been noticed but there has been no symptoms directly attributable to it.

Case 3: Mrs. L. G., white, age 18. During first pregnancy blood pressure rose to 170/110. Urine remained negative. Normal delivery May, 1929. She became pregnant 12 months later and was seen on Aug. 5, 1930 in her third month with blood pressure 150/90 and negative urine. Blood pressure did not go any higher and even had a tendency to fall under treatment. Normal delivery May, 1931. Since then

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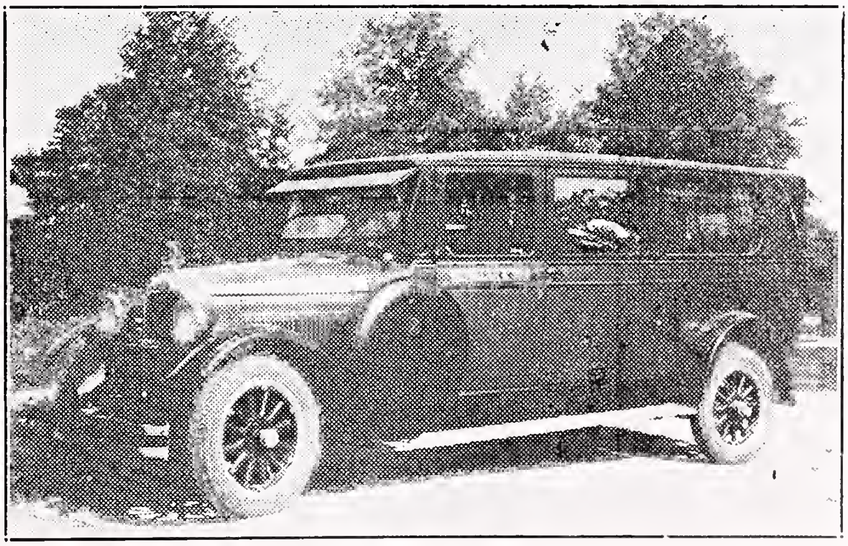

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blood pressure persisted around 150/90, and N. P. N. is 29 mgms. per 100 c.c. A moderately enlarged thyroid has been present for several years. B.M.R. plus 3.

It is seen that by permitting this patient to become pregnant she is suffering increasing damage and is on the road to a nephritis.

Case 4: E. B., colored. Age 35. Observed during her sixth pregnancy in which blood pressure fluctuated from 130/90 to 160/90 and urine remained negative. Pregnancy terminated at term because of hypertension, in June, 1929. Seen again two years later when three months pregnant with blood pressure 150/90 which rose to 160/110 with negative urine. Normal delivery in November, 1931. Ten months later patient was admitted to medical division and died from myocardial disease.

Pregnancy in the presence of such hypertension even when organic pathology is not detectable undoubtedly led to the rapid terminable disease.

In the first case quoted we presented a typical recurring toxemia returning to normal between pregnancies. In the other cases we see a more severe form of hypertension which was not relieved by delivery and eventuated in organic pathology. We feel that the first case will in the course of time, as a result of succeeding pregnancies fall in line with the others. Yet there is not present at this writing any evidence of an organic lesion. Peckham studied 32 cases of the low reserve kidney type similar to the one presented here, entirely relieved by delivery, yet upon followup he found chronic nephritis within four years. Oother studies of similar nature has shown corresponding results. In 1921 Gipson stated that freedom from albumenuria following an albumenuric toxemia was no assurance of complete recovery. Harris studied the problem of successive pregnancies associated with albumen and showed that nephritis develops within one year in over 50 per cent of the preeclamptic toxemias. However, other than the recognition of the well defined chronic nephritis during pregnancy the possibility of the syndrone complex of toxemia being more than an acute condition had not been generally entertained prior to the reporting of the behavior of the same patient in several pregnancies. In fact, there was for a long time the theory of immunity following toxemia. Williams in his 1930 edition announces the repudiation of this ancient theory and records the results of recent clinical experiences to the contrary, citing Peckham's report of chronic nephritis following eclampsia in 23 per cent of 74 cases. Young found a recurrence of albumenuria in 35 per cent of previous pre-eclamptic and recently Peckham found that 40 per cent of toxemias showed signs of nephritis upon followup studies. The sphygmomenometer has been of particular importance in this change of attitude. Many have indicated the value of hypertonicity as an early index of a disturbed physiology. It is our own feeling that the value of this instrument is surpassed by none in the obstetrical armamentarium.

The name recurrent toxemia was given to the condition as seen in succeeding pregnancies and in which no kidney disfunction was demonstrable. Kellogg regarded it as an entity and stimulated much increase in interest. A most comprehensive survey and analysis of the problem led to Stander offering his classifications into four groups; Low reserve kidney; Pre-eclampsia; Eclampsia; and Nephritic Toxemia. The recurring type he feels is due to low reserve kidney. Young explains the recurring variety as being due to an X factor, which while interfering with the pregnancy does not affect the mother in between pregnancies. Stewart Roberts is evidently somewhat of the same opinion when he urges that the point of view towards hypertensive toxemias be shifted from toxicology to physiology and regards pregnancy as the discoverer of unstable organs.

The possibility of the late toxemias being a general physiological strain with concentrated effects on individual organs is borne out by pathological studies. The liver presents disease and dysfunction to the extent that hepatic toxemia has been separated by some into its own group. The brain and heart also present lesions. Stieglitz has shown that nephritis associated with toxemia is a secondary lesion just as it is under other conditions. It is on such grounds that we have felt that we are dealing with some general process. The capacity of the woman to withstand the strain of pregnancy is impaired by some factor and the repetition of the strain ultimately leads in a large percentage of these cases to organic pathology.

The blood pressure curve is the most delicate and constant barometer of the patient's reaction to her pregnancy. Next in value is the weight curve and lastly urinalysis. We regard the normal blood pressure in the childbearing age as 100 to 110 systolic and 130 systolic as distinctly abnormal. A rising blood pressure even though it still be below the pathological level is regarded as evidence of physiological disturbance and warrants more than usual care during the pregnancy. The disturbance is believed to be the result of the strain of pregnancy in a woman rendered below par by some lesion, whether it be a focus of infection, thyroid disturbance or any of the other etiological possibilities suggested by experience. In accordance with the principle of modern medicine a search is made for such lesions and they are remedied when possible. To conform with this view point and to encourage an open minded approach to the individual case we have modified Stander's nomenclature in that we designate the four groups as degrees towit:

The low reserve kidney with B/P up to 150, systolic as first degree.

Pre-eclamptic group as second degree.

Eclampsia as the third degree.

Demonstrable organic lesions associated with toxemia as the fourth degree.

This nomenclature more clearly indicates the relationship of the four divisions to each other by suggesting that one may lead into the other. It indicates the urgency for advising toxemic patients as to the safety and proper spacing of future pregnancies. The seriousness of rapidily succeeding and successive cases in the recurring toxemic variety is well shown by the followup studies. The physician who repeated-

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ly guides his patient through succeeding hypertensive toxemic pregnancies does not win a victory.

It is thus seen that a panoramic view reveals that we have passed from the early misconception of immunity induced by the late toxemias of pregnancy to the feeling that in a large percentage, perhaps 50 per cent, there will follow a recurrence that is either based on an incipient organic lesion or will be followed by such: that persistent hypertension in itself is sufficient evidence to warrant contraceptive advice and even sterilization. Furthermore, instead of regarding the condition as being due to a local disease we are passing to the attitude of regarding it as a general one, which, if not produced is at least aggravated and contributed to by a number of factors.

"From the Department of Obstetrics, University of Tennessee, Memphis, Tenn."

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Dr. J. W. D. Dicks, of Natchez, president of the Mississippi State Medical Association. He is courtly and courteous. He will preside over the meeting efficiently and with dignity. He has made a good president. Dr. Dicks has urged the importance of organization. Organized medicine has gone forward in Mississippi and has gone forward under his leadership.

Dr. E. C. Parker of Gulfport will succeed Dr. Dicks as president. He is a safe and sound man. We can follow his leadership and fear no evil.

Some Diagnostic Pointers In Endocrinology

EDWARD PODOLSKY, M.D.
Brooklyn, N. Y.

Severe, intractable headaches, paroxysmal in character affecting both temples, with vertigo, projectile vomiting and failing vision points to involvement of the pituitary gland.

Tenderness in the region of the thyroid is an early sign of a tendency toward hyperthyroidism.

Trochanteric obesity after 35 is a common sign in hypogonadism.

Great insensibility to pain is a very common sign in total hypopituitarism.

Attacks of diarrhea and vomiting with no apparent cause and nervous indigestion should make one suspicious of hyperthyroidism.

Attacks of acute, circumscribed cutaneous edema and of gastric, intestinal and sudoral hypersecretion is a common sign in parathyroid insufficiency.

In infants, severe athrepsia, skeletal nanism, with thick, short, deformed, fragile bones are signs and symptoms of total thymus insufficiency.

In Graves' Disease the sclera will often show above and below the cornea. Most frequently it shows from below. It may be absent above and present below, or vice versa. It is best observed when the eyes are at rest.

The child suffering from hypoadrenia exhibits a pallor, a pasty look to the skin, a flabby musculature, a lack of circulatory tonicity, a feeble cardiac activity, cold hands and feet, loss of appetite and loss of weight.

Severe epigastric pain, radiating to the back, obstinate vomiting and diarrhea, followed by profound weakness, reduction of blood pressure, low temperature, cold sweats and a slight bronzing of the skin indicates hyperfunction of the adrenals.

Pituitary obesity is marked at the abdomen and upper thighs. It is sharply delimited to the juncture of the middle and lower thords of the thighs. There is a comparative slenderness of the legs, head, hands and the feet.

The pituitary type of headache is associated with ocular and gastric symptoms and resembles migraine rather closely.

There is always noted a marked separation of the upper central incisors in pituitarism.

Painful spasms in the leg, brought about by flexing the hip joint with the leg extended at the knee is a very reliable sign of parathyroid insufficiency.

In thyroid hypofunction the skin is yellow like parchment or pale like alabaster.

In thyroid hyperfunction the skin is thin, soft and moist. There is an occasional mottled erythema of the neck and chest.

Flatfoot is very common in hypthyroidism.

Dentition is premature in hypergonadism.

An early involution of the thymus is accompanied by premature puberty.

One of the most prominent eye signs in hyperthyroidism is the inability to keep es eyeballs converged.

Poor circulation, with bluish and cold extremities, myocardial asthenia, reduced blood pressure are some common evidences of adrenal insufficiency.

Deficient chest expansion is frequently observed in cases of Graves' Disease.

The upper teeth are quite large in hypoactivity of the anterior lobe of the pituitary.

In Graves' Disease there is a distinct lagging of the upper eyelid in relation to the upper edge of the cornea in motion from above downward.

Another constant eye sign observed in Graves' Disease is a peculiar little twitching of the eyes at the instant of changing the movement of abduction to that of adduction.

Bitemporal hemianopsia with the outer fields of vision impaired is one of the constant signs in tumor of the pituitary gland.

The iris of a patient with hypoadrenia while it reacts readily to light, contracts very sluggishly.

The administration of thyroid extract to a patient already suffering from thyroid toxemia always aggravates the symptoms.

Alimentary hyperglycemia following 100 grams of glucose is present in every case of thyrotoxicosis.

In cases of pineal tumor, causing deficient secretion, there is a tendency to obesity and the individual may be sexually precocious with premature ossification of the bones.

The excessively masculine man with large superciliary ridges and coarse hair is suffering from adrenal hypersecretion.

Lowered basal metabolic rates are found in pituitary failure, in ovarian failure and in adrenal gland failure.

Unerupted teeth are frequently associated with marked endocrine stigmata.

The toxemia of early pregnancy is often due to corpus luteum defiency.

In Graves' Disease the forehead will not wrinkle when the eyeballs are rolled upward far as possible.

A continuous dark-brown line on the gums is a very striking sign in hypoadrenia.

Hypophyseal dwarfs age prematurely.

There is a hypolasia of the cardiovascular system in status lymphaticus.

Clubbing of the fingers associated with a marked increase in the breadth of the palm is an early sign of acromegaly.

Tinnitus is often found in patients suffering from myodema.

Typhoid fever may be a predisposing or exciting cause in many cases of pituitary disease.

Posterior pituitary lobe hypersecretions are productive of marked polyuria, polydipsia and polyphagia with secondary symptoms of emaciation and progressive weakness.

Hypothyroidism is regarded by some as the cause of frequent micturation in childhood.

Chronic ulcerations on the mucous membrane surfaces throughout the body is believed by many to be due to hypofunction of the parathyroids.

Hypothyroidism is not necessarily associated with excessive weight. It may also be observed with undernutrition.

In dyspituitarism with adiposity the basal metabolic rate is slightly diminished.

A marked emotional upset is often associated with under activity of the adrenals.

A slender thorax, rounded arms and thighs, a soft delicate skin, and scanty growth of hair on the face of a boy after puberty suggests an enlarged thymus.

Hypothyroidism should be suspected in all children overweight at birth, nine pounds or more.

A double murmur heard over the thyroid is pathonomonic of hyperthyroidism.

Hypothyroidism should be considered as likely in women who have symptoms suggesting a premature menopause.

Perineuclear cataract usually follows prolonged attacks of hyperparathyroidism.

Amenorrhea is an early symptom in women suffering from acromegaly.

One of the most important and distinctive signs, which appears quite early in nearly all cases of thyroid deficiency is the eyebrow sign. The outer third of the eyebrow is devoid of hairs or they are very scanty. The remaining hairs are also scanty, often coarse and arranged like the rays of a fan pointing upwards giving the patient a surprised and stupid expression.

Myalgia and neuralgia are very common in hypothyroidism.

In hypothyroidism the voice has often a peculiar intonation; it is harsh or husky due to infiltration of the vocal cords.

Dyspnea is a cardinal symptom in intrathoracic goitre.

High dorsal kyphosis is often a complication of acromegaly.

Hypocalcemia is one of the characteristic features of the tetany syndrome of hypoparathyroidism.

One of the most constant signs of the higher grades of adrenal deficiency is sluggishness of the kidneys in excreting nitrogenous waste products.

One of the most characteristic features of thyroid deficiency is sensitiveness to cold. The actual body temperature is reduced in some cases by as much as three and a half degrees.

The convulsions in parathyroid deficiency are almost always symmetrical on both sides of the body.

Hyperactivity of the parathyroids is characterized by weakness and pain in the bones. The bones become soft and deformities of the skeleton occur. In an advanced stage of the disease the chest may bulge and the legs bend outward giving rise to a typical "frog-leg" appearance.

Double vision or blurring in pituitary enlargement signifies that the enlargement is beginning to impinge upon the optic chiasm.

Eosinophilia, high blood uric acid, abnormal galactose and increased urine volume are among the valuable signs of pituitary deficiency.

When pituitary deficiency first takes place at the time of puberty a condition of mingled normality and infantilism results. Almost normal height may be achieved but the skeletal proportions and general configuration remain juvenile.

Quadriceps muscle weakness is a common finding in the thyrotoxic patient. If he is made to sit on the edge of a chair and told to extend his leg and thigh at right angles to the body, he will raise the extremity with dificulty. It sags as the force to keep it up is lacking. He will slowly lower it.

7119 Nineteenth Ave.

A Discussion Of The Transurethral Operation For The Relief Of Prostatic Obstruction*

T. P. SPARKS JR., M.D.
Vicksburg, Miss.

Since the time of Hunter, the transurethral approach for the relief of prostatic obstruction has intrigued the imaginations of those interested in this subject. Mercier, Gerviale and Bottini, each in his day, attempted to develop an operative precedure applicable by the transurethral route for the relief of this malady. Young, prboably the most distinguished urologist of his generation, in 1909, offered the so called punch operation and this was the first real step toward the development of the highly efficient instruments now in use. Young, however, restricted his procedure to an attack on the small middle lobe intrusion and median bar obstruction. The unique skill of this particular operator in the performance of perineal prostatectomy may well have influenced him in not proceeding further with the development of the transurethral operation. Luys of Paris, in 1914, advocated and employed the use of electro-coagulation through the endoscopic tube in the management of obstruction of the bladder neck and a review of his work would lead one to believe that many excellent results were obtained. It remained, however, for Caulk to demonstrate to the profession the broad possibilities of the transurethral approach and to Caulk should go a large share of the credit for the present well-standardized technic. Bumpus, Stern, Davis, McCarthy, Foley, Kirwin, Collings and a host of others have since devised instruments highly satisfactory in the hands of one experienced in their use.

At the present time there are in wide use two methods of transurethral approach for the relief of prostatic obstruction. One is typified in the punch method and, the instruments devised by Caulk and Bumpus are of this type. The first of the resectoscopes was presented by Stern, now eight years ago, and almost at once following the appearance of Stern's instrument many others more or less similar were born. All of these latter instruments possessed the common property of a cutting element of wire activated by a high frequency current.

With the resectoscope, three factors are essential for successful manipulation. There must be furnished a current capable of cutting under water, a current competent to coagulate tissue and thus control hemorrhage, and finally, a telescope permitting the performance of the operation under constant vision of the surgeon. Probably many, if not the majority, of the various instruments procurable will be found entirely satisfactory for the performance of this operation, provided they are handled by those competent in their use. The sine qua non in obtaining a satisfactory result in these cases is a thorough knowledge of the anatomy and pathology of the bladder neck an intimate acquaintance with the technic of employing the instrument with which one proposes to work.

During the past three years, the operation of transurethral prostatectomy has likely attracted more attention and has been more widely and justly discussed, than any other recent surgical procedure. As yet the ultimate goal has not been fully realized, but certainly this method has robbed prostatic obstruction of certain of its terrors and it has permitted many unfortunates otherwise doomed to immediate days of misery with fairly quickly final dissolution, to obtain relief and become again useful citizens. The reduction in the morbidity and mortality rates predicted by the pioneers in this field has actually been realized. It is my belief that the high mortality reported by some of the earlier workers in their first series of cases will not be experienced by future novitiates for theirs will be the opportunity of profiting by the experiences of those who have preceded them. In comparing the mortality of revision versus prostatectomy, in the future many factors will need be borne in mind. There will be fewer prostatectomies and more cases of revision. Prostatectomy will be reserved for the better risk, whereas many revisions will be attempted on cases not acceptable for formal prostatectomy. These factors naturally will tend to make the mortality rate from prostatectomy at first blush appear better in comparison with the transurethral operation than actually is the case. Each year, with increasing experience, in determining the proper amount of tissue to be removed, fewer multiple operations will be necessary. Even at the present state, the number of repeat operations is low considering the fact that the operation is done on a gland undergoing the process of enlargement

It was at first maintained by some writers that the results of this operative procedure would not be permanent and some described the operation as though it were only a palliative procedure. Time has, however, demonstrated that in the vast majority of cases the results several years later are as good as noticed immediately after operation.

The pre- and post-operative care of patients subjected to transurethral prostatectomy must be as carefully attended to and should be precisely as thorough as though formal prostatectomy or other major surgical procedure was about to be employed. If preliminary drainage is indicated, it should be provided in the most aseptic fashion possible. Individuals suffering with residual urine ordinarily have developed considerable immunity to the organisms present, but infection introduced from without constitutes a very great danger. If one is not prepared to approach the patient in proper surgical frame of mind, they had best be left alone.

Hemorrhage, demanding operative interference, is not a frequent occurrence following this operation, but when it appears should be dealt with both promptly and positively. Bleeding immediately following surgery can in most instances be controlled by re-

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*From the Proceedings of the Staff Meeting, Vicksburg Hospital, Inc. and Clinic. Vicksburg, Miss., January 11, 1934.

introducing the resectoscope and coagulating the active point. The control of hemorrhage that occurs between the tenth and twenty-first post-operative days, and which obviously results from the separation of a slough cannot always be so simply managed and resort may be necessary to suprapubic cystotomy with introduction of the Hagnar bag or, if one prefers, by packing the cavity. In my own experiences, I have had this misfortune on only one occasion, in which instance the hemorrhage was quite severe and I felt it best to introduce, through a suprapubic cystotomy, a bag. Beyond prolonging the convalesence of this particular patient it did not materially influence the post-operative course, and now, eight months later, the patient is entirely relieved of his former obstruction.

Finally, I desire to emphasize the fact that this is not an operation to be undertaken without due regard for its gravity and it should not be attempted unless, as previously indicated, one has an accurate knowledge of the anatomy of the region involved, as well as some understanding of the mechanics of the instrument to be used. Otherwise the mortality rate experienced will equal or exceed that of prostatectomy in the hands of a surgeon of average ability. It is none the less my opinion that transurethral resection of the prostate properly performed will yield a decidedly lower mortality rate than will prostatectomy done on similar cases. That the operation is not without its pitfalls is well demonstrated by the following case:

CASE REPORT: The patient, a white male 58 years of age, registered at the Vicksburg Hospital, complaining of inability to void. The history was that twenty-four hours previously, being unable to pass the urine, a physician was called and the bladder was emptied by catheter. Subsequent distention and discomfort caused him to enter the Hospital and at 5:00 a. m. he was examined by me. The bladder at that time was greatly distended and five hundred cubic centimeters of urine were withdrawn. It was estimated that a like amount remained in the bladder and this was gradually removed by catheter.

The past history was irrelevant except that for the past seven or eight years there has been a gradual diminution in the size of the urinary stream and during the past year this has grown materially more marked, both as regards the size of the stream and ability to begin the act of micturition.

The family history other than that the mother died of pulmonary tuberculosis was not remarkable.

Physical examination revealed a fairly well developed, but poorly nourished, elderly man, who did not appear acutely ill. The skin was rather dry, but otherwise normal. The gums were edentulous. Superficial examination of the nose and ears negative. There was no glandular adenopathy, and the head and neck otherwise showed nothing of great moment. The lungs were clear and the cardiovascular system was relatively normal. The blood pressure reading was systolic 150, diastolic 80. The abdomen, except for some distention with gas, was not remarkable.

The external genitalia appeared normal. Examination of the prostate showed it to be enlarged, grade 2, the middle lobe being particularly affected The gland was quite tender to palpation.

Laboratory studies showed the dye output normal and the creatinine and non-protein nitrogen levels were within nomal limits.

It appeared therefore that this patient had a prostatic obstruction with complete retention and it seemed to me that the case was ideally suited for the transurethral operation.

Catheter drainage was instituted for a period of forty-eight hours at the end of which time surgery was done. Spinal anesthesia was employed and one gram of tissue was removed from the middle lobe. It was my impression that this provided satisfactory canalization. A twenty-two catheter was left in place and the patient was returned to his room in excellent condition. The post-operative course for the succeeding three days was entirely uneventful. At that time the catheter was removed after having filled the bladder with an antiseptic solution. The patient's attempt to void, however, was not satisfactory, the urine flowing in a small dribble. Again the catheter was introduced and allowed to remain for ten days, at the end of which time there was some improvement in the size of the urinary stream but it did not approach normal. I concluded, therefore, that more tissue should be removed, and, again employing spinal anesthesia, the resectoscope was introduced and the bladder thoroughly inspected. There were no clots noted and no fragments of tissue, the result of previous section, were found. It was noted that the lateral lobe encroached upon the lumen to a degree that easily explained the patient's inability to void. The site of previous incision showed some reddening with beginning granulation and there was some superficial sloughing. At this time two deep cuts were made in each lateral lobe and three cuts were made in the area previously excised, so that a total of two grams of tissue were removed. An indwelling catheter was placed in the bladder and the patient again returned to his room, once more in excellent condition. During the succeeding twenty-four hours, under the strictest aseptic precautions, the bladder was irrigated each thirty minutes with warm boric acid solution. This was felt wise because there was slightly more than the usual amount of blood in the urine. On the third post-operative day, the catheter was removed, after filling the bladder, and the patient promptly voided a large stream of urine. He was discharged from the Hospital on the seventh post-operative day in satisfactory condition. The urinary stream was large, the burning which accompanied micturition (and incidentally this is an expected and common concomitant) was definitely diminishing. The patient voided an average of two hundred fifty to three hundred cubic centimeters of urine and possessed but one dram of residual urine.

What appeared following the first surgical procedure to be a satisfactory canalization proved later to be not sufficient. No doubt had I removed at the original operation the total amount of tissue ultimaltely resected at both, namely three and one half

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grams, the second operation would not have been required.

CONCLUSIONS

1. A brief historical survey of the subject of transurethral prostatectomy is offered.

2. Certain of the more common complications which may follow this operation are discussed and an illustrative case report is appended.

The Nursing Profession Works For Recovery

MISS DOLLY RUTH DALTON, R.N.
Superintendent of Nurses, Houston Hospital
Houston, Miss.

Mr. President, ladies and Doctors, it is indeed a great privilege to attend this meeting and I count it a signal honor to be asked to give a paper before your society. I want to thank my very special friend, "Daddy" Walker, for securing me this enviable honor, but do not take too much stock in everything he says about me for you see I flatter myself that I am one of his many sweethearts so naturally he would say nice things. He does not realize, though, how badly afflicted I am with the malady which seems inherent to my sex—that of talking too much. In fact, when Dr. Armstrong removed my tonsils he had to use an extra "shot" of procaine to keep my tongue still. However, if you would like to get in a few words you might follow the example of the man whose wife was ill. Mrs. A was ill—terribly ill. From the sum total of her symptoms she should have been dead two weeks ago, so the poor husband summoned the family physician. The doctor had hardly gotten in the door before the sufferer began relating her symptoms in the minutest detail. It was very apparent that very little could be gathered from the voluble patient so the medico took out his thermometer, stuck it in her mouth, and turned to Mr. A for information. After a few brief questions he doled out a few pills and left with the instruction to let him know how the patient was getting along. The next day Mr. A presented himself at the doctor's office and the doctor wanted to know if the patient was worse. "No", replied the man, "but I'd like to get one of those talk stoppers that you used yesterday. That is the only minute's peace I've had since my wife got sick."

Since the fall of 1929 the United States has been working for recovery. The professions have felt the effects of the depression almost as severely as has industry. One hears and reads of overcrowding in every profession, especially in nursing, education, medicine, and law. It is not without reason that nursing was mentioned first, for as far back as 1920 a group of experts was chosen by leaders in the medical and nursing professions to study nursing. At that time the nurse was neglected by public interest. Individually she was looked upon with honor and favor; in groups she found it hard to find a forum for the publication of her ambitions. She was submerged by the overshadowing of that profession to which she is auxiliary, and all too frequently from being auxiliary she was, in the public's thinking, deviated to the more easily ignorable position of being a servant. As a result, medicine was content to give her a share in the crumbs that fell from the rich man's table. The medical man gave her a measure of meager food by offering her, at the fagged end of the day when the teacher was worn out and the class weary, certain small courses in medical subjects which, it was assumed, would offer the nurse a background for those nursing procedures which she was taught all too scantily in the classroom and ward. But at least the medical profession stood by her to this extent.

At that time almost anyone who wished might call herself a nurse; she might go out to nurse the sick; she might set her own price, which in many cases was as high as that charged by the registered nurse. Nursing is the only profession in which such a condition is allowed to exist. We do not have untrained doctors, lawyers, or dentists. If one is sick the doctor who treats one must be a graduate of a medical school and have a state license; the druggist who compounds ones medicines must be a graduate of a college of pharmacy and be licensed by the state. If one calls in a "cosmetician" she must have a state license; if you are a man and wish a barber to shave you, he must have a state license; if you consult a lawyer to make your will, he must have passed the state bar examinations and be sworn in by a judge of the Supreme Court. If, however, the care given by the holders of these state licenses has been of no avail, and your time has come to join the great beyond, fear not, the state is not relaxing its care in your last moments—for the undertaker who is to bury you must have a state license. From birth to death on your journey through life you are guarded by state licenses on all sides with one glaring exception—the practical nurse. I believe the time is here when the nursing profession should leave no stone unturned in an effort to get the word "nurse" protected by legislation by defining who may practice as a nurse. And in that effort we shall need the backing of the medical profession.

Within a short space of little more than a decade a revolution has taken place. The nurse herself has graduated into an appreciation of her own work. The public has appreciated the lessons that have been dinned into its ears not only by nurses themselves but also by those who realized that to neglect the progress of the field of nursing was essentially tautomount to neglecting the field of public welfare: that to ignore an important cog in the machinery of health administration was equivalent to wrecking the whole machine. Through all the agencies interested in the progress of nursing a new mind towards nursing has been evolved until today no educational agency can afford to neglect the education of the nurse, nor can it afford to ignore a profession which has proven its direct influence in the developement of ever so many professions with which it is allied or to which it is a subsidiary. Therefore, after the first report of the Grading Committee in 1928, three national nursing organizations appointed a joint committee called the

EUGENE ROSAMOND
Pediatric Diagnosis
Rosamond Clinic for Children
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Memphis, Tenn.

Joint Committee on the Distribution of Nursing Service to study ways and means of improving nursing. The Grading Committee's report indicated shortages of qualified nurses in some specialties, particularly mental nursing, obstetrics, pediatrics, and communicable diseases; that geographic distribution is uneven, that too many are in the large cities and too few in the small towns and in the country. In view of the foregoing, the Distribution Committee defined as its objective the attempt of organized nursing to formulate and execute a plan which will bring the well prepared nurse in contact with those situations in which her services are needed and in which her services will be available to all patients under conditions which will allow for satisfaction in workmanship to the nurse.

The Distribution Committee decided that neither nurses nor their professional organizations could do much to carry out these objectives without the understanding and support of the hospitals, the medical profession, and the public. To this end a sub-committee on Community Nursing Councils was appointed to work out a model plan of organization which would serve as a guide to communities. The second sub-committee appointed was on General Staff Nursing. This committee was to try to make staff nursing more acceptable to the graduate nurse, as well as to the hospitals. The third sub-committee was to study the field of Hourly Nursing as a possibility of more employment for nurses. The fourth and fifth sub-committees were to study Rural Needs and Registries.

Last year the Sub-Committee on General Staff Nursing became acutely aware of the increasing employment difficulties and offered the following suggestions:

1. Better selection of students, thus cutting down the cost of carrying large numbers of probationers for several months only to eliminate from twenty-five to fifty per cent of them.

2, Employment of ward helpers, etc., to do a large amount of the routine work now done by students.

3, Strengthening of hospital organization by employing graduate nurses who are available at relatively low salaries, thus giving the doctors nursing services uninterrupted by class attendance, and the patient the care of more experienced nurses.

4. Tuition fees for students in schools offering a sound, well organized teaching program.

5. Abolition of student allowances and use of the funds for teaching purposes.

Studies of the Sub-Committee on Rural Nursing show that approximately forty-five percent of all counties have no hospitals for general community use; that the supply of doctors is steadily decreasing in rural areas; and that there are at least one thousand counties without public nurses, so it is advising graduate nurses to go back home to work instead of staying in the city.

In closing I wish to say that the Board of Directors of the American Nurses Association has been in close touch with the office of the National Recovery Administration, and at the June 1933 meeting passed the following resolution: "In the interest of good nursing, we believe that nurses in caring for acutely ill patients should not be expected to work more than eight hours out of twenty-four, this service to be arranged wherever and whenever possible without added expense to the patient, and the community informed that it has an opportunity which it has never had before to secure nursing service on this basis. We urge state and district associations to bear this in mind and to make every effort to secure the adoption of such a plan by those who employ nurses."

It can be readily seen that the nurses are working for "recovery".

Bibliography: American Journal of Nursing, Vol. XXXIII, No. 12; American Journal of Nursing, Vol. XXXIV, No. 1.

Doctors, Patients and the Community

Basing my remarks on DOCTORS, PATIENTS and the COMMUNITY, a subject used by William Trufant Foster, noted economist and writer, in a symposium held on February 7 at Philadelphia, which was staged as a joint conference of the College of Physicians of Philadelphia and the American Academy of Political Science, and was captioned, according to press reports as "M. D.'s and Sociologists Hold Stormy Session", which might well be paraphrased to read "Thunder in Philadelphia", and which in conclusion accomplished exactly nothing except a lot of newspaper notoriety, unless it can be said that it may arouse the medical profession to a more alert acceptance of impending economic changes which is sure to take place in the medical profession as well as our whole economic, social and political structure.

It must be borne in mind that doctors, patients and the community is directly interrelated insofar as sickness and the public health is concerned, and that each has a bearing on our community and national economic structure.

It can be well said that doctors have always realized their position in society, and accepted their responsibilities with a spirit of altruism seldom or never shown by any other branch of our social structure. They have accepted the Hippocratic oath with a degree of affection akin to worship and have given to humanity every ounce of their combined scientific powers, yet they have failed to take into consideration certain economic changes and dispensations which carry them along the maelstrom, and which unless they gird themselves about will leave them stranded on a sea of unknown economic adventure, and herded about by forces of unknown quantity.

The doctors have kept apace with scientific development in the treatment and prevention of disease, but they have failed to take into account the economic factors involved, and that a new economic deal is in prospect for the whole of society. That the present economic status and the prospective changes which will inevitably take place is of profound importance to the medical profession, none whom is at all informed can seriously doubt.

For the past few years, political lines have been

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Practice Limited,
Diseases and Injuries
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Orthopedic
Appliances

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Every living human being must become the ward of preventive and curative medicine. Call it socialized medicine if you will, but our medical economics must be so adjusted, that from the greatest to the least will have all of the benefits of progressive scientific medicine unhampered by political interference or social dogmas.

The doctors in order to do the most for the patient and the community, must be provided with the necessary emoluments to pursue unmolested scientific reseach in quest of knowledge for the cure and prevention of disease.

Since the patient and incidentally the community is the recipient or beneficiary of the doctor's research and knowledge, it then must necessarily follow that if we are to work out an equitable plan which will offer a solution to our problems, the patient and the community must be taken into our confidence as a co-partner, whereby a cooperative program can be maintained.

The patient and the community, must of necessity furnish the finances, while they of course reap the emoluments of scientific endeavor, in the form of better health and better treatment.

Aside from pain and agony, disease and disability present a very definite economic problem, which seriously affects our whole social order, and the public must pay in the loss of time, and disease, and death for their lack of knowledge of their duties to the doctor; if this be true, then it is the duty of the doctor, the responsibliity of the doctor, to so acquaint the patient and the community, that there may be a better mutual understanding, and a more cooperative plan of proceedure.

The doctor must admit that he is a small, but very important part of one stupendous whole, and that to be of the most benefit to the greatest number, he must assist in rearranging our medical and social economics so that each member can receive the best of his administrations and at the same time lend his knowledge, acquired by generations of study, research and experience, in promoting the health of the community, thereby bring about a more normal and happy existence. This we owe to ourselves, the traditions of medicine, the patient and the community.

All of the foregoing would seem superfluous, unless a plan of proceedure was offered. In the past we have resoluted and whereased, and have been left as a rudderless ship on a stormy sea with apparently no compass to guide us, and have floundered about, with no shore line in sight.

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J. A. RAYBURN, M. D.

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Adopted by Mid-South Post Graduate Medical Assembly, Feb. 14, 1934, Peabody Hotel, Memphis, Tenn.

We should not, I think, be doing justice to the feelings which are uppermost in many of our hearts if we passed to the business of the day without taking notice of the fresh gap which has been made in our ranks by the untimely death of Dr. Alex B. Dancy, who would have today opened our great assembly as president at its semi-centennial session.

Dr. Dancy was consulting opthalmologist, oculist and aurist for the hospitals of Jackson. He was a member of the staff of the Memorial Hospital, a member of the Tennessee Governing Committee of the Gorgas Memorial, a member of the American, the Tennessee, the Madison County, and the Mississippi Valley Medical Societies; a fellow of the American College of Surgeons and the Phi Chi Fraternity. He considered it his greatest honor to have been made president of the Mid-South Post Graduate Medical Assembly.

In civic enterprises Dr. Dancy was a charter member of the Jackson Rotary Club, having served as its first president, was a charter member of the Jackson Country Club, and held one of the longest memberships in the Jackson Lodge, B. P. O. Elks. He was a liberal contributor to the Jackson Y. M. C. A. and had served in several official capacities for the association. He was one of the board of trustees of the First Methodist Church of Jackson of which he was a member.

In June, 1911, Dr. Dancy married Miss Mary Happel, of Trenton, Tenn., who, and their two children, Miss Mary Happel Dancy and Alexander Brown Dancy Jr., survives.

Dr. Dancy, in whatever environment of circumstances of condition he might have been placed would have been, as he was always and everywhere, a manly and winning personality. Born of parentage who staunchly defended the ideals of the Old South, granted the best public and Christian education of Jackson, equipped for his profession in the preferred universities of the East, with special courses abroad, prepared him for an unmeasured impress upon his fellow man and a great service to those who sought his skill. The bounty of nature, enriched and developed, not only by early training, but by constant self-discipline through life, blended in him gifts and graces which, taken alone, are rare, and in such attractive union are rarer still.

And what he was he gave; gave with such ease and exuberance that I think it may be said without exaggeration that wherever he moved he seemed to radiate vitality and charm. He has left behind him no resentments and no enmities; nothing but a gracious memory; the memory of one who served with an unstinted measure of devotion his generation. He has been snatched away in what we thought was the full tide of buoyant life, still full of promise and of hope. What more can we say? We can only bow once again to the decrees of the Supreme Wisdom. Those who loved him—and they are many—in all schools of opinion, in all ranks and walks of life, when they think of him will say:

"This was the happy Warrior; this was he
That every man in arms should wish to be."

W. H. ANDERSON, M.D., Chairman.

Booneville, Miss.

Ole Miss Medical News

By N. C. House

THE GREATER OLE MISS MEDICAL SCHOOL

Cheer, My Brethren, Cheer, Our trials will soon be over! The $75,000 building appropriation has been made for the Ole Miss Medical School, and plans are now being worked out by architects and contractors for construction so that work on the new hospital, now not in use, can be begun at an early date.

Courses that will be placed in the new hospital are Physiology, Bacteriology, and Clinical Diagnosis. The Dean's office will also be in this building and offices of the professors. The building will be modernly equipped in every respect, and students will receive all the advantages possible in a modern medical school. An Out-Patient Department and a new course in X-ray work will be available for second year students; which work has heretofore been unintroduced.

The building now occupied by the medical school will in part be remodeled, and several courses will sitll be in this building: namely, Anatomy, in all its departments, will be on the third floor, Pharmacology on the second floor, while the first floor will be completely devoted to biological sciences.

The University of Mississippi Medical School is extremely appreciative of every effort given by anyone to put through the building program. Dr. Mull, as Dean of the Ole Miss Medical School has worked night and day in bringing about the necessary changes as demanded by the Accrediting Association in Medical Education, and his labor has borne fruit. We are very optimistic concerning the future outlook of our medical school, and we are assured of an even greater Ole Miss Medical School.

SEMINAR ORGANIZED AT OLE MISS MEDICAL SCHOOL

Through the efforts of Dr. W. F. Potter, Professor and Head of the Department of Physiology, and H. H. McClanahan, Jr., Instructor on Physiology and Pharmacology, a medical seminar has been organized at the Ole Miss Medical School. Although Dr. Potter has taken much interest in organizing the seminar, McClanahan has been the principal leader to urge forward the movement. He has devoted much time to the organization, and he has been successful in bringing about a very worthwhile thing on the campus.

The personnel of the seminar includes the entire medical faculty, Dr. Wofle of the Psychology Department, Mr. Gladden of the Physics Department, Dr. Hammond, Professor and Dean of the Pharmacy School, and Dr. Culley and Dr. Bramlett of Oxford. Dr. Potter is now serving in the capacity of Chairman while McClanahan is Secretary.

The purpose of the seminar is to keep all members informed as to the recent advances in the fields of medicine as represented by the various members. Meetings are held about three times a month, and at each meeting some member of the seminar makes a short and interesting lecture on advances in his particular field of work.

Visitors are welcomed at all meetings, and the medical students are very fortunate in having an organization as this on the campus, and they find themselves greatly benefitted by attending these meetings.

OUR FAULTLESS FACULTY

The University of Mississippi Medical School is indeed grateful for the caliber of its faculty, and the school is exceedingly fortunate in having such men for instructors. The personnel has been chosen on a plan unsurpassable by any other method of selection. Many points were taken into consideration in choosing instructors best fitted for particular work here; selections included such points as academic qualifications, teaching experience, demonstrated teaching ability, productive research work, and personality. Such factors were used in selection, and the result is a faultless faculty.

The personnel of the medical school includes the following men with their respective departments of work: Dr. P. L. Mull, B.S., M.D. Dr. Mull is Dean of the Medical School and Professor of Anatomy; he is a man who lives and breathes the medical school, and through his untiring efforts he has been largely responsible for giving Mississippi a medical school of which to be proud. Dr. P. W. Rowland, M.D., F.A.C.P., Professor and Head of the Department of Pharmacology and Materia Medica. Dr. Rowland is the founder of the department, and it is a pleasure to list him in our faculty. Dr. J. B. Looper, B.S., M.D., Ph.D., Professor of Histology and Embryology. Dr. G. H. Woollett, B.S., M.D., Ph.D., Professor of Organic and Physiological Chemistry. Dr. H. J. Gondolf, M.D., Professor and Head of the Department of Bacteriology, Pathology, and Clinical Diagnosis. Dr. J. R. Simms, Jr., Ph.C., B.S., M.S., M.D., Assistant Professor in Bacteriology, Pathology, and Clinical Diagnosis. Dr. W. F. Potter, B.A., M.A., Ph.D., Professor and Head of the Department of Physiology. Mr. A. E. Hardison, Jr., B.S., Instructor in Anatomy, Histology and Embryology. Mr. H. H. McClanahan, Jr., B.A., M.S., Instructor in Physiology and Pharmacology. Hardison has had ten Quarter-Years in medicine at the University of Tennessee and has taught there for four years in the medical school. McClanahan has received two years of medicine at the University of Penn. Medical School, and has had three years teaching experience in science, being a Teaching Fellow in Physiology in the University of Tennessee in 1932-33. Dr. B. S. Guyton, M.A., Oph.D., F.A.C.S., Adjunct Professor in Minor Surgery. Dr. A. H. Little, B.S., M.D., Adjunct Professor in Medicine, Physical Diagnosis, and Obstetrics. Mr. Henry Aloway, Graduate Nurse, and Technician in Clinical Diagnosis. He is Technician and Diener in the Laboratories of Bacteriology, Pathology, and Clinical Diagnosis. Such are the men who make up the faculty of the University of Mississippi Medical School.

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